

NECEDAH

NARRATIVE REPORT

JANUARY-DECEMBER 1964

Division of Wildlife Refuges

Narrative Report Routing Slip

Refuge NECEDAH ~~NECEDAH~~ ~~_____~~ Year 1964

Chief's Office: ~~Mr. Elliott~~ E ~~_____~~ Mr. Ackerknecht _____

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Job Corps: Mr. Regan _____ Mr. Huenecke _____

Necedah National Wildlife Refuge

Necedah, Wisconsin

PERSONNEL

Carl E. Pospichal	- - - - - to 6/23/64	- - - - - Refuge Manager
Edward J. Collins	- - - - - from 7/8/64	- - - - - Refuge Manager
James C. Gritman	- - - - - EOD 4/20/64	- - - - - Forester
Joseph Kotok	- - - - - to 12/1/64	- - - - - Refuge Manager (Trainee)
Vern E. Rudolph	- - - - -	- - - - - Clerk
Robert W. Arrowsmith	- - - - -	- - - - - Mechanic, Auto.
Harold R. Carter	- - - - -	- - - - - Operator General
Harold C. Hanson	- - - - -	- - - - - Maintenceman

TEMPORARY

William A. Sery	6/8 to 9/9/64	Wildlife Aid
Thomas P. Reicosky	6/15 to 8/28/64	Student Laborer
Vernon C. Wilderspin	6/16 to 9/18/64	Wildlife Aid
Rex Burns	1/1 to 6/26/64	Operator General
Roy E. Cooper	4/22 to 5/23/64	Laborer
Donald C. Humphrey	4/27 to 5/23/64	Laborer
Andrew A. Pangburn	4/27 to 10/15/64	Laborer
Albert T. Jirousek	12/1 to 12/31/64	Truck Driver
Alvin J. Williams	11/22 12/31/64	Truck Driver

In addition to the above, 35 Laborers were appointed during January 1964 working on timber stand improvement under the Accelerated Public Works Program.

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I. GENERAL

A. Weather Conditions.

	<u>Month</u>	<u>Precipitation</u>		<u>Max.</u> <u>Temp.</u>	<u>Min.</u> <u>Temp.</u>
		<u>Normal</u>	<u>Snowfall</u>		
January	<u>.65</u>	<u>1.02</u>	<u>5.75</u>	<u>50</u>	<u>- 13</u>
February	<u>.08</u>	<u>1.01</u>	<u>1.25</u>	<u>58</u>	<u>- 11</u>
March	<u>1.02</u>	<u>1.91</u>	<u>19.05</u>	<u>60</u>	<u>- 5</u>
April	<u>3.19</u>	<u>2.65</u>	<u>1.25</u>	<u>84</u>	<u>16</u>
May	<u>5.56</u>	<u>4.38</u>	<u> </u>	<u>89</u>	<u>34</u>
June	<u>5.39</u>	<u>4.98</u>	<u> </u>	<u>93</u>	<u>28</u>
July	<u>1.40</u>	<u>3.77</u>	<u> </u>	<u>99</u>	<u>41</u>
August	<u>3.24</u>	<u>3.33</u>	<u> </u>	<u>99</u>	<u>30</u>
September	<u>4.39</u>	<u>3.35</u>	<u> </u>	<u>87</u>	<u>23</u>
October	<u>.34</u>	<u>2.27</u>	<u> </u>	<u>75</u>	<u>8</u>
November	<u>1.30</u>	<u>2.24</u>	<u>1.30</u>	<u>75</u>	<u>- 8</u>
December	<u>.68</u>	<u>1.36</u>	<u>4.40</u>	<u>38</u>	<u>- 24</u>
Annual Totals	<u>27.24</u>	<u>32.26</u>	<u>33.00</u> Extremes	<u>99</u>	<u>-24</u>

Temperature readings are provided from an official weather station operated on the Joe Gregar farm near the east boundary of the refuge. Precipitation data are provided from an official rain station that has been maintained on the refuge during the summer period for the past 15 years.

The winter months of January, February and March could be classified as dry and open. Snow accumulations were light while temperatures remained fairly moderate with the lowest reading of -13 degrees occurring on January 13th. The heaviest snowfall of the winter amounted to 10 inches on March 26th.

Frequent showers during April, May and June resulted in above normal precipitation. A late frost occurred on June 1, when the temperature dropped to 28 degrees. High winds occurred on May 4th causing damage to trees in the headquarters area.

July was hot and dry with very low humidity. Less than half the normal precipitation was recorded. The temperature dropped to 30 degrees on August 13th and froze nearly all refuge crops before they matured. Frost was recorded on six dates during September.

In October only .34 of an inch of precipitation was recorded resulting in near explosive fire conditions. The lowest temperature of the month of 8 degrees was recorded on October 10th.

"Indian summer" continued into November providing us with a near perfect autumn. Although we received one inch of snow on the 8th, it melted fast. The coldest day of the month was -8 degrees.

December showed the true character of winter with numerous below zero readings. The coldest was a frosty -24 degrees curtailing most outdoor activities. Precipitation was far below normal with an accumulated snowfall of 4.4 inches.

B. Habitat Conditions

1. Water

Snow conditions during the winter months were moderate, considerably below the past several years. The spring thaw was characterized by warm days and cool nights resulting in a gradual run-off. All available water was taken through the Remington structure to protect water rights. All pools were ice free by the first week of April. Approved elevations were maintained during the spring months on Sprague and Rynearson 1 and 2 pools.

Summer precipitation was below normal and not sufficient to maintain refuge pools at approved elevation. By August both the Sprague and Rynearson No. 1 pools were 1 foot below normal operating levels. Cranberry growers to the north also were affected by the summer drought and withheld all available water. Refuge crops suffered from lack of summer rains. Despite the fact that no water was released, all pools continued to recede during the summer period.

The hot, dry summer continued into fall and caused further recession of refuge pools. By December Sprague pool was

nearly 2 feet below approved summer elevation and Rynearson No. 1 was $1\frac{1}{4}$ feet low. Rynearson 1 went into drawdown in December for rough fish control but will be reflooded in the spring of 1965. Rynearson No. 2 was drained in June for moist soil plant production with a gradual reflooding commencing on October 5th. Lack of sufficient rains prevented this pool from reaching approved fall elevation.

The northern group of pools (18, 19, 27 and 28) maintained adequate levels in the spring, but lack of summer precipitation caused pools to recede to low levels. Fall rains were not sufficient to replenish these small impoundments and consequently, they entered the winter period in drawdown status. Despite the fact that we had trouble maintaining pool elevations during 1964 we anticipate no problem filling our pools during the spring of 1965.

2. Food and Cover

Winter conditions were not severe and as a result deer and upland game birds were not restricted as they would be in a normal year. Deer were observed on most of the better deer range indicating very little yarding. Sharp-tailed grouse and ruffed grouse had no difficulty "budding" for food. The State of Wisconsin continues to maintain turkey "feeders" both on and off the refuge. Bob-white quail and ring-necked pheasants were observed occasionally on surrounding refuge lands, but the winter was difficult for these marginal species. By mid-April all refuge agricultural units were open and food was available to most forms of wildlife. Ducks and geese utilized all remaining crops that were not removed last fall.

Sprague pool and Rynearson 1 continue to produce vast supplies of aquatic food. Dense beds of Elodea, Eleocharis, Ceratophyllum and Myriophyllum were heavily used by ducks and geese. During the summer period the shallow north portion of Sprague pool attracts large numbers of flightless birds. Numerous grassy islands and meandering shore line provide abundant brood habitat. The few remaining trees continue to produce a small number of great blue heron. "Heron "fishing" is confined to small game fish, minnows and frogs in the immediate area of Sprague pool.

Rynearson 2 continues to be drawn down each summer for moist soil plant production. The pool is drained in June each year and planted to buckwheat and Japanese millet. Reflooding commences in October making this food available to large numbers of ducks and geese that concentrate here. Normally, a generous supply of food remains available for the spring migrants.

Most refuge crops suffered from summer drought. What escaped the drought were hard hit by an August frost. Approximately 90 per cent of the corn and 80 per cent of the buckwheat were frost damaged. Several hundred acres of rye browse provided the bulk of the food for geese. Geese fed extensively between the rye fields and Rynearson l. We found that rye alone would not hold geese for long on the refuge. Heavy movements of geese off the refuge took place this fall, presumably in search of more staple food. The heavier than normal kill this year is indicated by the early established feeding patterns of the geese. We have found that more and more, farmers to the south and west of the refuge are manipulating crops with the intent to harvest geese. Many farmers rent their land to hunters and are realizing a substantial profit from hunting values.

Although refuge farming is geared almost exclusively for geese, other forms of wildlife also benefit. Hardly an evening passed when 30 to 40 deer could not be seen grazing in the Canfield rye fields. Turkeys were also observed on many occasions on the lower and upper Canfield unit. These birds were probably attracted here in search of insects as much as for green browse. When the year ended rye browse was still available to deer and turkey. However, the buckwheat and corn that was not frost damaged had long since been gone.

II WILDLIFE

A. Migratory Birds

1. Waterfowl

a. Whistling Swans

Whistling swans arrived at the refuge the second week of April which is two weeks later than the past several years. The peak population of 81 surpassed the 80 in 1962 and 40 in 1963 but does not compare with the 400 recorded in 1961. All swans but one had departed by the end of April with use confined exclusively to Rynearson No. 1. The one remaining whistling swan departed by mid-May. For the past several years large swan migrations have been noted passing over the refuge during early April.

Swans normally do not use the refuge during the fall migration. On several occasions a single bird was noted in Sprague pool and in Rynearson l. These were probably different swans and quite likely one or both may have been wounded. Neither were seen flying.

Last fall 10 birds stopped off on Rynearson 1 and in 1962, 50 used the refuge for a short period during the fall. A fairly heavy migration was observed September 24th as many good-sized flocks passed over headquarters. Similar observations have been made in past years but rarely have swans stopped during the fall to rest and feed.

b. Geese

Fewer Canada geese use the refuge in the spring than in the fall. The peak spring population of 3,500 birds the last week of April compares with 4,000 in 1963, 3,500 in 1962 and 3,000 in 1961. Ice is normally present when the birds arrive in the spring and results in some shifting to the Petenwell dam on the Wisconsin River where open water is available. By the last week of April the population had stabilized and all but 100 birds had moved on north. Spring use by Canada geese is down 30,000 units from the past two years, this being a reflection of birds staying for a shorter period of time.

From an estimated breeding population of 15 pairs, three broods were observed for a total of 15 goslings. Average production for the past 4 years is 55 young. Predation by raccoon and skunk is probably the limiting factor for goose production at Necedah. Large numbers of raccoons are destroyed each year with no apparent decrease in the predator population. A poisoning program would, no doubt, be effective in the control of raccoons but is not permitted under Wisconsin law.

Nesting platforms built and installed in Sprague and Rynearson 1 pools during the winter of 1963 have shown no indication of nesting use but will be maintained in the hopes that geese will use them in the future. Nesting islands built by dragline and dozer in Rynearson 2 have had nesting attempts but are highly susceptible to predation.

The fall peak of 8,660 Canada geese was the lowest since 1955 when it reached 8,500. Since 1956 the fall goose population has fluctuated between 12,500 and 27,700 birds with 15,000 being near the average. The low population this year is attributed to lack of corn and buckwheat to hold the birds on the refuge. It appears that browse alone is not sufficient to permit the goose population to build up as it does in years of good crop yields.

The Canada goose kill this year is the second highest in refuge history. This year's kill of 1,130 birds is exceeded only by the 3,000 taken in 1959 when the fall population reached 27,700. Lack of staple refuge food resulted in geese establishing early feeding flights off the refuge and a subsequent heavier than normal kill. An additional 300 Canada geese were taken on the Meadow Valley flowage but are not included with the refuge kill.

Canada goose use-days compare favorably with 1962 but are down 19% from last year.

Blue and snow geese rarely stop in the spring although small flocks are usually noted passing over the refuge. Heavy movements occur in the fall but the refuge population rarely exceeds several thousand birds. The fall population peaked at 1,170 birds the second week of October which was the same time a large migration passed through this area. A few snows remained until the bad storm on November 20th. Approximately 25 blues and snows showed up in the hunter's bag this fall and is probably the highest number ever taken by hunters in this area. Total use-days is down drastically from last year but nearly approaches the 1962 figure. A decrease of 160% is shown over the 5-year average.

One white-front was seen in early October feeding in John Becker's buckwheat field with several hundred Canada geese.

Goose Use-Days

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>5-yr. Average 1960 - 64</u>
Canada	537,887	636,942	554,190	578,071
Blue-Snow & White-front	15,309	70,700	18,550	41,490
TOTAL:	553,196	707,642	572,740	619,561

Canada goose peak fall population and hunter kill

<u>Year</u>	<u>Peak Population</u>	<u>Estimated Kill</u>
1959	27,700	3,000
1960	12,500	206
1961	14,500	835
1962	15,300	500
1963	13,100	933
1964	8,660	1,130

c. Ducks

The spring and fall migration failed to reach their normal numbers this year resulting in decreased total duck use from the past 2 years and from the 5-year average. The low number of spring birds is attributed to pools being frozen during the peak of the migration. Fall temperatures were extremely moderate, possibly resulting in a "lingering" farther north and a more gradual movement of birds through this area. A normal fall with colder temperature often results in a "grand passage" of ducks and higher peak populations for this refuge. The decreased fall population is thought to be more a reflection on climatic conditions than on habitat or flyway populations.

Spring use by ducks show a 200% decrease from last year. This is mainly a reflection of the low mallard use this spring. The fact that refuge pools were still frozen when the peak migration occurred has probably influenced refuge duck use. Goldeneye and redhead are the only species showing an increase over last year and these, at best, were only slight.

During the fall migration all ducks but pintails were less numerous than last year. Total duck use for the year is down 100% from last year and down 59% from the 5-year average. Mallard and widgeon were the prominent decreases both in the spring and fall. Other ducks decreased to a much lesser extent.

Dabblers are our most numerous migrant, particularly the mallard and widgeon. Rynearson No. 2, which is managed for moist soil plants, is most attractive to mallards, pintails, green and blue-winged teal. American widgeon and all species of divers find the Sprague and Rynearson No. 1 most to their liking. On many occasion, widgeon were observed mixed with large rafts of coot, obviously taking advantage of their feeding habits. Coot utilized the Sprague and Rynearson 1 pools extensively this fall. The fall peak of 20,600 ducks is down 16,000 from last year and 12,000 from the 5-year average.

Waterfowl production is difficult to ascertain, principally because of the many miles of ditch and nearly inaccessible shore line on most of the pools. Brood production is estimated to be on a par with other years although predation is known to take a heavy toll of ducklings. Information from an experimental nest study conducted this year shows over 50% nest destruction during the peak of the nesting season. Our total brood production of 1,020 young is minimum, the potential, of course, is much greater. Mallard and blue-winged teal are the most common nester but other nesting ducks are the hooded merganser, wood duck, green-winged teal, and scaup. An aerial-ground breeding pair count was attempted

this year for the first time but the information gained was not conclusive enough to be of value. The flight will be rescheduled in 1965 to obtain a more realistic air-ground ratio that when applied to other factors can be used in estimating brood production.

d. Coots

Total use-days is down just slightly over the 5-year average. The population peaked at 7,750 the last week of October and compares with a peak of 10,000 in 1963. Fewer number of birds stop to rest and feed during the spring. Sprague pool attracts the greatest number of coot where rafts of 2,000 birds are common in the fall. Rynearson 1 also attracts moderate numbers of coot. Approximately 350 birds were still on the refuge just prior to the November 20th snow storm.

Nesting occurs in Sprague and Rynearson 1 pools with an estimated production of 30 young.

Duck and Coot Use-Days

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>5-yr. Average 1960-64</u>
Duck	1,092,562	2,202,340	1,547,350	1,733,146
Coot	293,090	301,700	177,240	260,194

Duck and Coot Peak Population (Spring)

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>5-yr. Average 1960-64</u>
Duck	3,710	13,730	2,140	5,778
Coot	1,000	500	100	540

Duck and Coot Peak Population (Fall)

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>5-yr. Average 1960-64</u>
Duck	20,615	36,490	32,500	32,894
Coot	7,750	10,000	8,000	8,350

2. Other Water Birds

Sandhills usually arrive by the last week of March but this year migrants did not arrive until April 3, when two were observed. The summer population leveled off at 25 birds with major use concentrated on Ryneerson pools 1 and 2. The late summer population rose to 75 with the arrival of local sandhills from the Meadow Valley and surrounding area. Some nesting is thought to occur on the refuge. The fall population peaked at 130 birds the first week of November. Moderate use of the Laske field was noted during the fall, probably as much in search of insects as for green browse. Most birds moved out just prior to the storm on November 20th.

Great blue herons continue to maintain a small rookery in Sprague pool. Once a 300-400 nest rookery, the size continues to diminish as trees are up-rooted by strong winds. The first herons were observed on April 15 and remained on the refuge until the third week of November. The summer students located 7 active nests during the summer for a production of 21 young. No cormorant have nested for the past 3 years.

American bittern are present in low numbers. One took up winter residence in 1963 on the Sprague seepage while one stayed this fall until late December. Green herons were first observed on June 12 when 2 were using the Goose pool seepage. These birds are seen less frequently than American bitterns but are occasionally found on marsh peripheries. Observations of black-crowned night herons are rare but one was sighted on May 7 while conducting breeding pair count.

Pied-billed grebes are common during the spring and fall. Arrival date this year was April 10; departure occurred just prior to the first storm of the winter on November 20.

Common loon are rarely observed. The first observation occurred on April 10 while 3 summer observations were recorded. One loon was heard on Ryneerson 1 during the fall goose banding operation.

Sora and Virginia rails are frequently observed during the summer period. No fall buildup was noted.

Herring gulls are common summer visitors. None were observed during the fall.

Common and black terns are common during the spring and summer. Both are rarely observed during the fall.

Belted Kingfishers were common during the summer and fall.

Shorebirds

Killdeer and spotted sandpipers are the most numerous shorebirds on the refuge. Greater and lesser yellowlegs were observed on numerous occasions during the summer and fall, particularly in Sprague pool. Common snipe are observed during the spring and fall migration. A buildup was noted in October.

Doves

Mourning doves are found most frequently near tree fringes surrounding crop fields. Summer students succeeded in banding 57 birds, an all time high for this station. All doves had departed by mid-November.

B. Upland Game Birds

Ruffed grouse are down over the high population recorded in 1963. Drumming activity as well as hunting success bore this out. Broods were few, small in size and generally quite late. Considerable renesting may have occurred.

Sharp-tailed grouse apparently are holding their own. On the Blair field dancing ground, 14 birds were counted this spring. Six sharp-tails were flushed from the lower Canfield farm unit in September. No broods were observed this summer. This is quite a change from 12 years ago when birds were plentiful enough to permit a liberal hunting season.

The wild turkey population that was transplanted on the refuge in the early 50's has prospered through the years. The mild winters of the past few years has permitted the turkey to increase to a point where the State is contemplating a hunting season. The turkey range here is comparable in many respects to the Pennsylvania range with numerous oak ridges interspersed with jack pine, brush and marsh. Acorn production has been excellent and provides the staple winter food of the turkey. In addition, the State is needlessly providing "feeders" both on and off the refuge. Brood production this year is probably the best ever recorded. Broods were large and it was not uncommon to see 10-12 young with a hen. The fall population on the refuge is estimated at 500 turkeys. The State feels that the total population in this 100,000 acre area is between 1,500 and 2,000 birds.

Woodcock are readily observed during the spring and fall migration. A buildup was noted in October although hunting pressure is very light. Woodcock broods have been observed south of the Laske fields in past years.

Bob-white quail are on the edge of their northern range in this portion of Wisconsin. This year was the first observations since

the severe winter of 1962. On June 11th, one bird was recorded at headquarters. Several sightings were made during the summer in the vicinity of the Williams farm unit and Ryneerson pool area.

Ring-necked pheasant are present as a result of dog trial releases held just south of headquarters in past years. A brood of 12 was observed on the secondary agricultural unit while several cocks were seen occasionally throughout the year. This area does not have the habitat to permit more than a token population of birds.

C. Big Game Animals

White-tailed deer have created numerous management problems on the refuge. Until 1963, Wisconsin's buck law prevented a realistic harvest of deer. A "Variable Quota" system instigated in 1963 and elaborated in 1964 permitted the taking of any deer for those hunters that qualified under the party system. Under the rules, 4 hunters could go together and apply for a "quota" deer in the area of their choice. Generally speaking, few groups had trouble getting permits. As a result, more deer were removed from the refuge during the gun season than would have been removed under the regular buck season. The calculated removal for the three deer seasons that are permitted on the refuge are: early bow and arrow season - 30; gun season - 320; late bow and arrow season - 350. The total removal of 700 animals reduces the herd well within the carrying capacity of the range. Although few animals have been observed since the hunting season, tracks indicate a substantial population remains on the refuge.

Black bear have not been observed on the refuge since the sighting made in September 1963. It is probable that several are using the refuge, at least during part of the year.

D. Fur Animals, Predators, Rodents and other Mammals

Mink numbers are down over the past two years with the results that predation on trapped wood ducks was a minor problem this summer. Only 5 mink were removed by trappers this fall.

Muskrats were at least equal to last years' population or slightly higher. Refuge trappers concentrated on house trapping in Ryneerson No. 1 and Sprague pool. With many muskrats using bank burrows there was no danger from over-trapping. Trappers removed 636 'rats from an estimated population of 1500 - 2000 animals. The 50 day season ran from October 31 through December 19, 1964.

Beaver are less numerous than previous years. During the past 3 years approximately 240 beaver have been removed from the refuge. Reducing the beaver population to a more desirable level has helped to alleviate the problems of plugged culverts, water control structures and flooded roads. The present population consists of eleven known colonies located in the north two-thirds of the refuge. Thirty beaver were removed during the spring beaver trapping season of 1964.

Otter numbers have continued to increase over the years. Refuge observations are quite frequent, especially on the Williams dike road and Pool 19 where seven were seen this fall. Their wandering habits make them vulnerable to trappers who trap the refuge boundary. Several are usually taken each year by the refuge trapper but are turned over to the State Conservation Department.

Raccoons are abundant on most portions of the refuge. A predator nest study conducted this summer shows a high nest loss to Canada geese and ducklings. Raiding of duck traps was prevalent this summer and as a result many were killed by refuge personnel. Use of poisons is prohibited under State law.

Striped skunks are not as numerous as raccoons but are troublesome during the nesting season.

Badger are present in low numbers as evidenced by their diggings. Opossums have not been observed on the refuge for three years.

Weasels are common to all portions of the refuge. Low fur value in this area results in no interest for these small furbearers.

Red foxes appear to have increased over last year. Since repeal of the bounty law interest in trapping this species has diminished. Summer students reported seeing a black fox near the Williams and Sprague-Mather road several times this summer. Gray foxes are occasionally observed.

Coyote are rarely observed during the summer but sightings are quite common once the pools have frozen. As many as 5 were seen on the ice in Ryneerson 1 during December. On several occasions coyotes were observed on Sprague pool and in one instance interfered with cannon net trapping by chasing geese off the trap site. Two were removed during the year, one by refuge personnel and one by deer hunters.

Red, fox and gray squirrels are very common to all portions of the refuge. Occasionally melanistic grays are observed. Two families of flying squirrels are permanent residents near the manager's house and several more families are located near the headquarters granary.

Cottontail rabbits are observed infrequently, the population never being very high. Snowshoe hare are present in very low numbers. A carcass was found along the east dike of Sprague pool last year and was the first sighting in several years.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies

Red-tailed hawks are the most common avian predator on the refuge. The summer and fall population is quite high. Several are year-round residents. Marsh hawks are seen rarely during the summer but frequently during the fall. Cooper's, sharp-shinned and sparrow hawks were observed on occasion during the fall migration. Rough-legged hawks are winter residents only.

Bald eagles are observed commonly on the refuge just prior to and after the spring break-up in search of dead fish. These birds winter at the Petenwell dam where open water is available all winter. The fall population peaked at 15 in November. An immature bald eagle was caught in a muskrat set in Ryneerson 1 in November. Cause of death was attributed to shock and the carcass was shipped to the Patuxent Wildlife Research Center. Several golden eagles were noted this fall.

Great horned and barred owls are year-round residents and quite common to this area. Screech, long-eared and saw-whet owls are seen less frequently but are also present in moderate numbers. No snowy owls were observed this year whereas 3 were seen last year.

F. Other Birds

Migrant song-birds begin showing up in March with the arrival of red-winged blackbirds and robins. By the end of April a large variety of birds are present along with normal winter residents. Many varieties nest on the refuge. By September a buildup on many species was noted. A large movement of bluejays and chick-a-dees was particularly noticeable in October. By December, bluejays, downy and hairy woodpeckers, chick-a-dees, white-breasted nuthatches and tree sparrows were noticeable around the feeders.

G. Fish

Sprague pool is the only area on the refuge that is open to public fishing. Few game fish other than northern pike are present in refuge pools. Winter fishing could be rated only as fair with very few fish exceeding the 3 to 4 pound mark. Summer fishing was improved and reports of fish over 8 pounds were common.

Fishing is permitted only on Sprague pool during periods of low waterfowl use. Northern pike are the predominant game fish although during the winter it is not uncommon to have catches of perch. Summer fishermen had better success than winter fishermen this year both in numbers and in size of fish. Summer fishing is confined to an area that gives least possible disturbance to waterfowl while winter fishing is permitted over the entire pool. Bullhead are abundant in all refuge pools. Carp are present in low numbers and are controlled periodically by drawdowns.

Shocking operations conducted in June on Ryneearson 1 by the Wisconsin Conservation Department show that small sunfish and bullhead are abundant, northern pike and perch are common, while carp and suckers are present in low numbers. It is likely that this pool winter-killed during the 1962-63 winter.

Northern pike fingerlings were supplied to the Wisconsin Conservation Department from Ryneearson 2 at the time of the annual drawdown in June. Several thousand fingerling bullheads and sunfish are supplied annually to the LaCrosse Research Laboratory.

H. Reptiles

The following reptiles and amphibians were observed on the refuge or within 2 miles of the refuge during the summer period and were identified by the summer student assistant, Vern Wilderspin:

snapping turtle
western painted turtle
blanding's turtle
five lined skink
western slender glass lizard
red-bellied snake
Texas brown snake
Northern water snake
Eastern garter snake
Eastern hognose snake
Western fox snake
massasauga (eastern)

Northern leopard frog
Eastern gray treefrog
American toad
Green treefrog*

* The green treefrog is not known to occur within 350 miles of here but was seen by student Wilderspin while running aquatic transect lines in Ryneearson 1 pool. The specimen was not brought in and when the range of this was checked the value of this find was realized.

I. Disease

No evidence of any wildlife epizootics have been noted by refuge personnel during the year.

III REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

1. Water Management

Repair Pool No. 18 dike, remove brush from dike with dozer, construct emergency spillway. Construct road from Bewick Trail to control structure.

Install water gauge and construct stoplogs for new water control structure on West Branch Little Yellow River Ditch.

Shape-up, haul and spread 295 cubic yards crushed gravel on Ryneearson 1 east dike.

Spread 72 cubic yards of crushed rock on Sprague-Mather dike north of structure No. 29.

2. Road and Trail Maintenance

Shaping, blading and dragging refuge roads as needed.

Sprayed 15 miles of trails and fire lanes with herbicide for weed control.

Construct visitor parking lot at refuge headquarters.

Install road identification signs on public roads in refuge.

Complete the 60-ton steel bridge over the East Branch of the Little Yellow River Ditch on the Bewick Trail.

Haul 600 cubic yards of crushed gravel to headquarters stockpile and 1,000 cubic yards to secondary stockpile from Necedah gravel pit.

Stockpile 150 cubic yards of pit-run for rip-rap at secondary headquarters.

Contract No. 14-16-0003-6206 to Roy Templin, Camp Douglas, Wisconsin for construction of 5 miles of new APW road north of the Sprague-Mather pool was completed during the period April 1 thru August 4, 1964 at a total cost of \$16,236.24. The contractor also installed the water control structure in the West Branch of the Little Yellow River Ditch.

Contract No. 14-16-0003-6162 to Arthur Overgaard Inc., Elroy, Wisconsin for hauling and spreading 7,245 cubic yards of crushed gravel on the new APW road, placing 65 cubic yards of pit-run rock in the emergency spillway and stock-piling 235 cubic yards of pit-run rock for rip-rap. Work was accomplished between December 3 and 17, 1964, at a total cost of \$22,122.75.

3. Fencing and Posting

Repairs made to 12 miles of west boundary fence and 3 miles of the northeast boundary; posts, wire and signs were replaced as needed.

Post open and closed area for two archery deer seasons, one gun deer season and two fishing seasons on the refuge.

Continue construction of two refuge recognition signs.

Painted all refuge entrance signs.

Began removal of old goose pen fence south of secondary headquarters.

4. Buildings

Quarters No. 1 Sanded floors, installed wall tile in bathroom, painted three rooms and basement

Quarters No. 8 Sanded floors, repairs to kitchen counter top, plumbing and sewer repairs, several rooms painted.

Quarters No. 11 Removal of wood furnace and began installation of oil-fired furnace, install underground fuel tank, some painting in basement.

Office Excavated, poured footings and constructed basement wall for 14' x 26' addition to office.

Other Buildings Install three fiberglass overhead doors on refuge shop building at headquarters. Painted barn, granary and shop building at secondary headquarters.

5. Equipment

Numerous maintenance jobs to refuge automotive equipment, farm tractors, dozers, grader and spraying equipment.

Removed stake bed from Dodge truck and installed it on a rubber-tired wagon for farm use. Installed steel dump box on Dodge truck.

Constructed drawbar attachment for TD-9 tractor to accomodate farm implements.

Overhaul of D-7 tractor starting motor.

Installed dump mechanism on 6x6 dump truck I-54090 and renovate air brake system.

Constructed fire plow hitch for TD-6 tractor.

Grind valves on Dodge truck I-16917 and 6x6 dump I-65087.

6. Agricultural Units

Cleared and leveled 140 acres of land with D-7 tractor and grader. Constructed 3 miles of access roads to newly cleared land.

Limed 29 acres of farm land.

7. Miscellaneous

Painted and straightened permanent aquatic transect markers.

Accelerated Public Works Program

The \$100,000.00 appropriation to be used on this refuge for forest preservation projects was completed in December 1964. The project began in September 1963 and provided 132 man-months of labor during the 14 months it took to complete the work. This program benefited both the local economy and the over-all objectives of the refuge. Forest preservation projects normally are lower priority jobs largely because of insufficient funds and manpower. This program gave the refuge an opportunity to rejuvenate old roads, trails, firelanes and thus better serve their purpose as forest protection facilities. New firebreaks were cleared, old pine plantations were thinned and pruned, thus releasing these stands and giving better opportunities for growth. An additional benefit derived from this program was improved public relations. The workers carried home a better understanding of refuge objectives and the local people became more appreciative of the refuge program.

In spite of a good safety program at this refuge we were unfortunate by incurring 7 accidents during the 14 months the program was in operation. Some were caused by careless workers, others seemed unavoidable and inherent with this type of outdoor work. One case is still pending with the Bureau of Employees' Compensation.

Following is a breakdown of work accomplished under this program:

Roads and trails brushed	26 miles	
Plantations thinned and pruned	76 acres	
Marsh habitat improvement	15 acres	
Road gravel - contracted to Overgaard Inc.	7,245 cu yd	\$22,122.75
Sand lift - contracted to Roy Templin	5 miles	16,236.24
Culverts - Wheeling Corrugating Co.	13	3,914.70

B. Plantings

1. Aquatic and Marsh Plants

The program of transplanting softstem bulrush to the Goose pool dike to provide protection for the dike and cover for waterfowl was continued this summer. Approximately 200 feet of bulrush was transplanted this summer from the mud flats of Rynearson 1 to the Goose pool dike. Many voids were also filled where past plantings had failed. Clumps contained from 15-20 stems each and were planted 5 feet apart. At present about 250 feet of dike remains to be planted to complete the entire south shore.

2. Trees and Shrubs

None this year

3. Upland Herbaceous Plants

None this period

4. Cultivated Crops

The entire farming program is carried out by refuge personnel. Land clearing during the past several years has increased the total crop acreage to nearly 500 acres. Frosts were recorded in June and August resulting in heavy damage to corn and buckwheat. Crops that survived the frosts were affected by summer drought. Corn loss was estimated at 90%, buckwheat at 80% while rye yielded only 5 bushel per acre. Corn acreage has been reduced the past several years because of lack of heavy soils and short growing season. Continued emphasis will be placed on growing buckwheat and rye while some of the outlying farm units will be planted to alfalfa browse. Because of the high acidity of refuge soils, it will be necessary to lime portions of the Upper and Lower Canfield farm units in coming years.

C. Collections and Receipts

None this year

D. Control of Vegetation

Refer to NR-12 for dates, application rates, method of application, labor and material costs.

E. Planned Burning

Major objectives of the 1964 controlled burning was to remove heavy accumulations of undesirable vegetation and improve upland habitat for sharp-tailed grouse and turkey and to improve the marsh and wetter portion of pool edges for waterfowl. Encroachment of willow, (Salix spp.) jack pine, (Pinus banksiana) and aspen, (Populus spp.) on upland areas and wool grass, (Scirpus cyperinus) on marsh borders are the principal species of concern.

1. General

Four areas were approved for burning under the 1964 Controlled Burning Plan. However, due to hazardous burning conditions, only Area 1 and portions of Area 2 were burned for a total of 300 acres. Cost of the project was \$50.00 including labor and equipment. Controlled burning has been a management tool at this station for the past 15 years. Recent burns were carried out in 1961 and 1963.

2. Conditions Prior to the Burn

Area 1 was burned on February 4, 1964 and is one of the better sharp-tailed grouse habitat units on the refuge. By slowing down the encroachment of undesirable woody plants such as jack pine, willow and aspen, desirable grassland areas can be maintained along marsh fringes and benefit not only upland game species but also nesting waterfowl. The burn area was free of snow cover while the forest area adjacent to Area 1 held several inches of wet snow and thus prevented the possibility of the fire getting away. This unit contains approximately 150 acres.

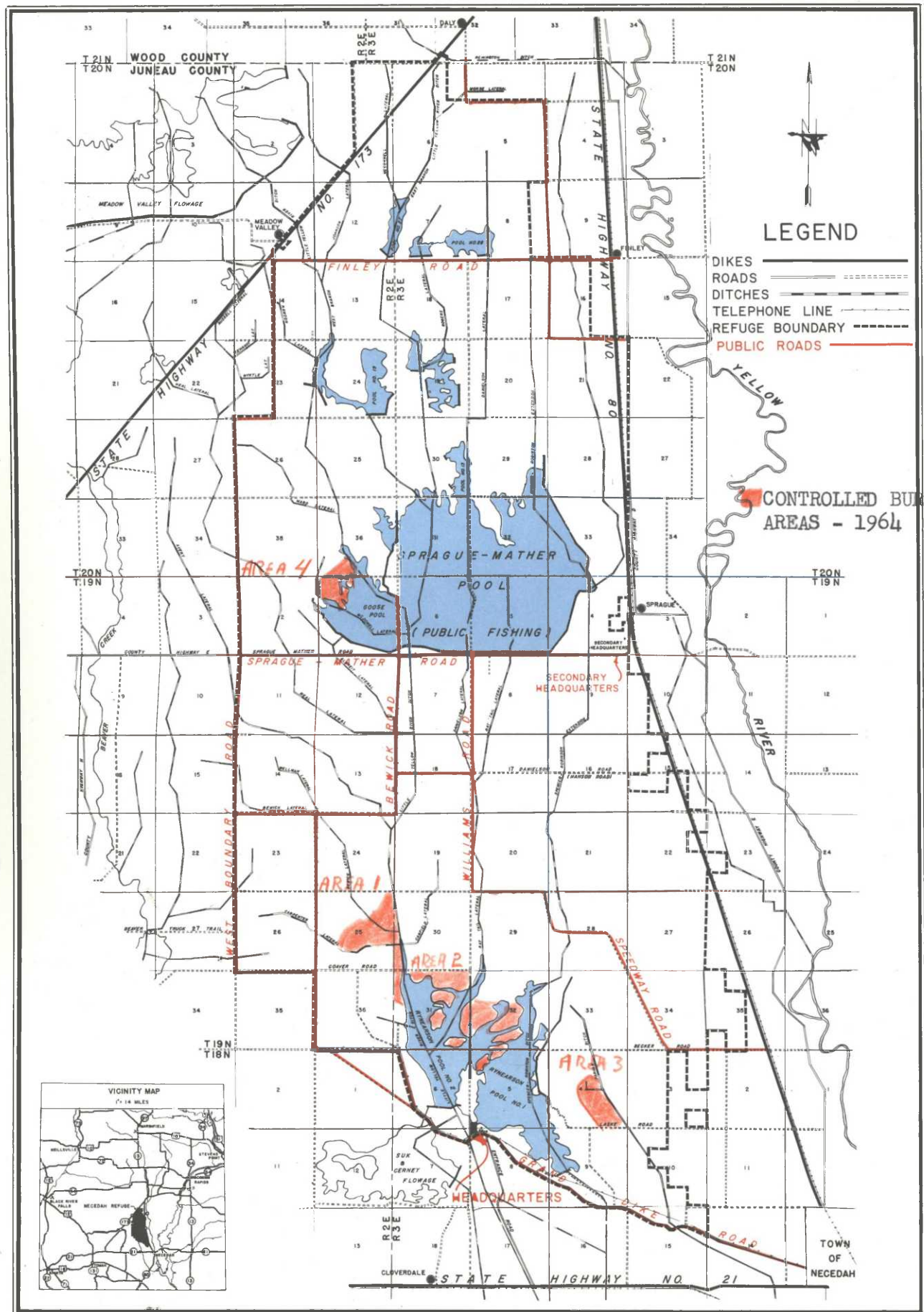
Area 2 was burned February 5, 1964. Ryneerson No. 1 and No. 2 pool margins provide important waterfowl nesting habitat in that portion of the refuge. An accumulation of jack pine slash as a result of clearing and encroachment of wool grass deprive this unit of prime nesting habitat. Burning will improve and expand these areas.

Area 3 is delineated on the attached map and was scheduled for burning. Due to hazardous burning condition it was not possible to attempt a burn on this area.

NECEDAH NATIONAL WILDLIFE REFUGE JUNEAU COUNTY, WISCONSIN

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF ENGINEERING

MINNEAPOLIS, MINNESOTA

JANUARY, 1960

Area 4 is delineated on the attached map and was scheduled for burning. Due to hazardous burning condition it was not possible to attempt a burn on this area.

3. Conditions following the Burn

Burning was conducted while snow remained on the forest floor while marsh edges and slash areas were virtually snow free. The fire was not hot enough to get started in the peat but sufficient to remove all forms of litter. Clearing and burning Rynearson No. 1 and 2 pool will greatly improve loafing and nesting habitat in those pools. Burning of Area 1 will set back encroachment of woody plants and maintain this area in needed grassland habitat for sharp-tails. Monotype stands are removed from pool margins making these areas attractive to breeding pairs of ducks.

It is important to burn some areas in consecutive years to incur root damage and thus maintain permanent openings in pool margins.

F. Fires

Date	Cause	Acres Burned	Type Burned	Damage
4/19	Transient	3.0	Marsh grass	None
5/4	Powerline	1.5	Oak - Pine	\$15.00
5/4	Lightning	3.0	Oak - Pine	3.00
5/4	Lightning	6.9	Marsh grass	None
5/22	Smoker	4.0	Marsh grass - Peat	3.00
8/8	Lightning	5.0	Pine - Peat	220.00
8/8	Lightning	<u>3.0</u>	Pine	<u>80.00</u>
Total:		26.4	Average size 3.8 A.	\$331.00

Fire conditions were explosive most of the spring, summer, and fall, but no big blow-ups occurred. The refuge staff plus the Wisconsin Conservation Department were on these fires very soon after they were discovered and in this way were able to contain them to small acreages.

On April 19 fire was discovered along a public road running through the refuge. This fire more than likely was set by a passing motorist. The fire burned 3.0 acres of dead marsh grass.

May 4 was a big day for fires on the refuge. The first of three fires was discovered at 4:15 PM along the powerline leading into the refuge headquarters. High winds had broken off a utility pole and the line shorted out in an oak tree. The short set a branch on fire which burned and fell to the ground setting the

leaves and litter on fire. This fire burned 1.5 acres. The second and third fires were started by lightning from a rainless electrical storm. These fires were discovered at 6:00 PM. The first fire the refuge crew spotted was burning in an oak-pine type and had started from a lightning struck oak tree. This fire burned 3.0 acres and did little damage. The next fire the refuge crew extinguished was burning in a marsh. Lightning had struck an aspen out in the marsh and set the dead marsh grass on fire. Water in this marsh was knee deep to waist deep and on the cold side. This fire burned 6.9 acres and did little damage. The WCD did not help on these fires as the Necedah Ranger had 21 lightning strikes to put out this day. The new refuge forester was observed shaking his head and mumbling to himself as he pulled his drenched frame from the marsh, on this our worst day for fires.

The May 22 fire was started by one of the temporary refuge employees who had been helping to level a field. One of these men had apparently been smoking and dropped a lighted cigarette as he was quitting work for the day. The fire was not discovered until the next morning and by this time had burned off a small marsh and was burning in the peat soil. This fire burned 4.0 acres but did little damage.

August 8 was a day in which two fires were discovered. These fires had been started by lightning. The last electrical storm before this date was on July 28 so these fires had been smouldering for sometime before they were discovered. One of these fires burned 3.0 acres in a pine type but did not do any damage to crop size trees as the fire burned only in the litter. The other fire burned 5.0 acres and did considerable damage. This fire was burning both in the litter and in the peat soil. Damage resulted from the peat burning either the trees off at ground level or burning the roots off, thus permitting the trees to fall to the ground.

IV. RESOURCE MANAGEMENT

A. Grazing

One permit was issued during the year to Arthur Seigler for grazing cattle on Units No. 6 and 7. The maximum number of head in Unit No. 6 was twelve and seven in Unit No. 7. Total income from 85.79 AUM's was \$12.39. The quality of the grazing is very low. The purpose of grazing is to maintain openings in fields that at one time were farmed by early settlers in this area.

B. Haying

One permit was issued to George Gregar for removing a nurse crop of oats from a clover planting in the Blair unit.

Approximately 25 tons of low quality hay was removed at a charge of .50¢ per ton.

C. Fur Harvest

Two beaver trapping permits were issued this year. The season began February 15 and ended March 15. Thirty beaver were removed. One otter was caught accidentally and turned over to the Wisconsin Conservation Department for disposition. Trappers averaged approximately \$13.00 per pelt.

One trapping permit was issued to John Bagnowski and helper for trapping mink and muskrat on all portions of the refuge. Refuge trapping was permitted in accordance with State laws and regulations and extended from October 31 through December 31, 1964. Mink and muskrat were divided on a 50-50 share basis with the trapper permitted to take all rough furs. A total of 636 muskrat, 5 mink, and 17 raccoon were removed during the season. The refuge share of 3 mink and 312 muskrats were shipped to the Hudson's Bay Company in New York.

D. Timber Removals

Twenty-seven wood permits were in force during 1964, 19 for pulp and 8 for firewood. A total of 5,341.23 cords of wood were removed for a revenue of \$ 26,328.05. Firewood permits are a result of plantation thinnings and firelane clearings under the Accelerated Public Works program. As of December 31, 1964, 6 of the 27 permits were incomplete. A complete summary of wood removals for the calendar year can be found in NR-11.

E. Commercial Fishing

None

F. Other Uses

An apiary of 20 hives was maintained on the refuge from July 6 through September 30 to improve buckwheat pollination. A charge of .10¢ per hive was made.

V. Field Investigations or Applied Research

A. Wood Duck Banding

Wood duck banding was not as successful as last year principally because of the difficulty in finding large concentrations of wood ducks. Trapping emphasis was placed in Sprague pool after unsuccessful attempts in Ryneerson 1. All trapping was with weld-wire traps baited with corn and located near loafing areas. Low water levels plus an abundance of aquatic food contributed to the low banding success. Mink and raccoon predation on trapped ducks was not as prevalent this year while last year nearly 100 were trapped and killed near trap sites.

The following table shows banding success of wood ducks for the past 5 years:

	AM	AF	IM	IF	LOCAL		Unknown	Totals
					M	F		
1960	135	14	72	21	0	0	0	242
1961	229	43	74	63	11	8	1	429
1962	279	114	67	38	4	12	0	514
1963	635	185	34	30	3	2	0	889
1964	236	49	35	22	1	3	0	346

B. Canada Goose Banding

Cannon net trapping of Canada geese was highly successful this fall. We were able to band 421 geese from a pre-season quota of 500 birds. We continued banding after the hunting season opened and ended up with a total of 710 banded Canada geese. Twenty-two were small Canada geese. Nearly all banding was accomplished in Ryneerson 1 on the permanent post-type cannon net stations. Although permanent stations are available on Ryneerson 2 and Sprague pool, our good success on Pool 1 precluded the need to use them.

The following table gives the sex and age data for Canada geese banded:

	<u>AM</u>	<u>AF</u>	<u>IM</u>	<u>IF</u>	<u>Unknown</u>	<u>Totals</u>	<u>Ratio Adults to Immatures</u>
1960	61	57	79	96	0	293	1:1.48
1961	140	136	126	134	2	538	1: .94
1962	57	48	80	62	0	247	1:1.35
1963	172	145	137	123	0	577	1: .82
1964	169	155	192	193	1	710	1:1.19

In addition to wood duck and Canada goose banding, the following concludes the banding for this year:

<u>Specie</u>	<u>Number Banded</u>
Mallard	180
Black Duck	26
Blue-winged Teal	18
Widgeon	2
Pintail	1
Brown-headed Cowbird	122
Mourning Dove	57
Red-winged Blackbird	24
Rose-breasted Grosbeak	7
Brewer's Blackbird	<u>1</u>
Sub-total:	438
Wood Ducks	346
Canada Geese	<u>710</u>
TOTAL:	1,494

C. Hunting Season Kill Data - Canada Geese

The following information was compiled at checking stations and outlying farms during the 70 day season which ran from October 10, through December 18, 1964:

<u>Check Station Data:</u>		<u>Outlying Kill:</u>	
Firing Line Kill	572	Madejaczyk farm/CWCA	45
Firing Line (estimated)	<u>148</u>	Parkers	15
Sub-total:	720	Findysz	13
		Carmody	36
		Sieglers	52
		Hunkins	11
Outlying Kill	<u>408</u>	Becker	20
		Price	17
		Kuntz	5
TOTAL:	1,128	Carr	7
		Mubarak	12
		Kroll	30
		Malecs	2
		Highway "E"	5
		East of Finley	4
		*Other outlying kill	<u>134</u>
*Estimated			408

Check stations were manned by State personnel for the first two weeks of the season, later being reduced to just weekends and Wednesdays.

Heaviest kill occurred the opening weekend when over 500 birds were taken. The outlying kill was tabulated by refuge personnel by making spot checks on neighboring farms. The heavy kill on opening weekend is a result of early established feeding flights to nearby farms. Refuge crops were nearly a total failure and we found it impossible to hold geese on rye browse only. Changing farm practices by adjacent farmers denote a trend toward goose management with some farmers developing small impoundments and agricultural units primarily to kill geese.

V. Public Relations

A. Recreational Uses:

The summer and fall period offer the greatest recreational opportunities on the refuge. Blueberry picking that normally attracts thousands of people to the refuge during the summer did not materialize. Early frosts killed all refuge berries and the few scattered clumps that escaped the frost were picked over fast.

Summer fishing did not amount to anything spectacular but did offer families the opportunity to get out together and enjoy the outdoors. On weekends many groups came and made a day of it, combining a fishing and picnic outing for the entire family. Fall fishing improved somewhat as the water cooled and the northernns became more active. Some good catches were heard of, some northern in the 6 and 7 pound class.

The nationally famous Necedah Bow Shoot continues to arouse interest in the refuge because it is held in close proximity to the refuge headquarters. Several thousand people attended the Bow Shoot as well as many thousands to hunt the refuge during the two bow and arrow deer seasons. An estimated 4,500 hunters used the refuge during the opening day of the late bow season on December 5th.

Wonderful opportunities exist for goose hunting on private and CWCA lands south and west of the refuge. Although no hunting is permitted on the refuge, thousands of hunters flock to areas near the south boundary to shoot geese as they move off the refuge to feed. When hunting is slow, many hundreds of hunters come to the headquarters to view geese in Ryneerson Pools 1 and 2.

The deer-rifle season on the refuge always attracts a high number of hunters. A high refuge deer herd generally provides good hunter success plus many unforgettable experiences.

Other forms of recreation enjoyed by the public are bird-watching, photography, hiking and general sight-seeing. This type of activity is encouraged by the refuge staff. As the year ends, ice fishing is again picking up in popularity although we have heard of no big catches.

B. Refuge Visitors

REFUGE VISITORS

<u>Date:</u>	<u>Name and Organization</u>	<u>Purpose</u>
1/10/64	G. Pospichal, Ass't Reg. Supv. M&E Mpls	Enroute on field inspection trip
1/20	Wm. Strozewski, WCD Fisheries, B.R. Falls	Northern Pike inventory
1/20	Arne Stolz, WCD Fisheries B.R.Falls, Wis.	Northern pike inventory
1/23	Raymond Chap, WCD Fisheries, B.R. Falls, Wis	Northern pike inventory
1/23	Ben Hubbard, WCD Game Mgr. Babcock, Wis.	Goose management
1/24	Clarence Smith, WCD Game Mgr. Babcock, Wis.	Turkey Management
2/3	Arne Stolz, WCD Fisheries, B.R. Falls, Wis.	Northern pike inventory
	Wm. Strozewski, WCD Fisheries " "	"
2/4	Clarence Smith, WCD Game Mgr. Babcock, Wis.	Turkey Observations
2/13	Marshall Stinnett, USGMA, Madison, Wis.	Enforcement cases pending
2/27	Wm. Carter, Mgr. Horicon Refuge	Stopped enroute
3/2	Wm. Aultfather, Reg. Forester, Mpls	Timber management
3/3	A. Krege, Sand Lake Refuge, So. Dak.	Equipment transfer
3/6	Calvin Clark, WCD Warden, Tomah, Wis.	Public Relations
3/6	Ben Little, WCD Warden, Mauston, Wis.	"
3/8	W. D. Brown, Gen. Contractor, Madison, Wis	Looking for turkeys
3/8	Jens O. Sivers, Wildlife Artist, " "	"
3/12	John Adamski, WCD Warden, Sparta, Wis.	Public Relations
3/12	Calvin Clark, WCD Warden, Tomah, Wis.	"
3/13	Norman Stokes, WCD Fisheries, B. R. Falls	Take oxygen samples on
3/13	Truman Skutley " " "	" impoundments
3/17	Marshall Stinnett, USGMA, Madison, Wis.	Review enforcement handbook
3/18	Edgar Klein, WCD Fisheries, Wis. Dells, Wis.	Spring fish migration
3/19	Harold F. Williams, U.S. Dept. Agriculture	White pine blister rust control
3/19	Clarence Smith, WCD Game Mgr. Babcock, Wis.	Game management
3/23	R. Wahlin, Eng. Mpls.	APW road work
3/27	Marshall Stinnett, USGMA, Madison, Wis.	Courtesy call
3/31	Blaine Gillette, Genoa Fish Hatchery	Equipment inspection
3/31	R. Wahlin, Eng. Sec. Mpls	APW road work
4/1	Lyman Reynoldson, USGMA, Eau Claire, Wis.	Enforcement
4/8	Wm. D. Carter, Mgr. Horicon Refuge	Equipment transfer

REFUGE VISITORS

<u>Date:</u>	<u>Name and Organization</u>	<u>Purpose</u>
4/8	Edgar Klein, WCD Fisheries, Wis. Dells, Wis.	Fish management
4/8-9	John R. Wright, Eng. Sec. Mpls.	Pre-construction conference
4/8-9	R. Wahlin, Eng. " "	" APW road work
4/9	H. V. Tennant, Water Regulatory Board-Wis.	Remington water mgmt
"	R. Plenge " "	"
4/15	R. Plenge, Water Reg. Board of Wis. Babcock,	Wis Water management
4/16	Marshall Stinnett, USGMA, Madison, Wis.	Courtesy call
4/17	J. T. Nedler, Entomology Dept. U. of Wis.	Bumble bee study
4/26	Earl Hilfiker, Audubon Lecturer, Rochester N.Y.	Tour of refuge
27-28- 29-30	R. Wahlin, Eng. Section, Mpls. Minn.	APW road work construction
4/28-29	Urban Nelson, Chief, Div. Wildlife, Mpls Forrest Carpenter, Reg. Refuge Supv. Mpls Frank R. Martin, Ass't Reg. " " "	Land exchange between Bureau and WCD " "
4/29	R. Smith, Game Mgmt Div., Madison, Wis. S. DeBoer, Game Mgr. B.R. Falls, Wis.	" "
4/29	R. Plenge, Wis. Water Regulatory Board, Babcock, Wis.	Water Mgmt
4/30	Lyman Reynoldson, USGMA, Eau Claire, Wis.	Deliver dove traps
5/1	Emil Huebner, Pres. Wis. Bowhunter's Ass'n.	Bowhunting
5/5	Wm. E. Green, Biologist, Winona, Minn.	Waterfowl dummy nest study
/6	Leo M. Brieske, Jr. GSA, Chicago, Ill.	Equipment maintenance
5/8	E. Lumb, Land Mgmt. Central Office	Soil & Moisture Plans
5/8	C. T. Rollings, Staff Specialist, Mpls. Minn	" "
5/11	F. R. Martin, Ass't. Reg. Ref. Supv. Mpls.	Discuss refuge problems
5/11	L. H. Dundas, Staff Specialist, Mpls. Minn.	Photos & Slide File
5/14	R. Wahlin, Engineer, Mpls. Minn.	APW Road Contract
5/14	Wm. Aultfather, Reg. Forester, Mpls. Minn.	Timber Management
5/13	Dr. Wm. E. Green, Biologist, Winona, Minn.	Aerial breeding pair count
5/13	John Winship, Pilot-Biologist, Mpls. Minn.	" " (waterfowl)
5/18	H.O. Duncan, USGMA, Oshkosh, Wis.	Dove banding
5/19	Earl Hermanson, Engineer, Mpls. Minn	APW road contract
5/19	Ron Wahlin, Engineer, Mpls. Minn.	" "

REFUGE VISITORS

<u>Date:</u>	<u>Name and Organization</u>	<u>Purpose</u>
5/24	David Hayes - 1963 Necedah Wildlife Aid, U. of Mich.	Visit
5/23	Marshall Stinnett, USGMA, Madison, Wis.	Dove banding
6/1	Lyman Reynoldson, USGMA, Eau Claire, Wis.	Dove banding
6/2	Ed Trecker, Recreation Specialist, Mpls. Minn.	Tour of refuge
6/2	Elmer Simmonson & crew, WCD Fisheries, BRF	Northern pike salvage
6/9	Carl Hermanson, Engineer, Mpls. Minn.	APW road contract
6/15	Wm. Aultfather, Regional Forester, Mpls. Minn.	Inspect timber management
7/15	Robert Seemel, Forester, Tamarac NWR	Tour of Refuge
6/15	Gerald Clawson, Forester, Crab Orchard Ref. Ill.	" "
6/15	Lester Dundas & Family, Staff Spec. Mpls.	Courtesy Call
6/16	Marshall Stinnett, USGMA, Madison, Wis.	" "
6/16	Lud Frankenburger, WCD Fisheries Biologist	Shock fish in Ryn. No. 1 Pool
6/25	S.G. DeBoer, WCD Game Mgmt Supv. B.R. Falls, Wis	Public Relations mgmt.
6/25	Robert Nord, Fish Mgmt Ser. LaCrosse, Wis.	Courtesy Call
7/6	Einar Kaastad & Family, DeSoto Refuge, Missouri	Visit
7/6	Wm. Aultfather, Reg. Forester, Mpls. Minn.	Timber Management
7/22	Marshall Stinnett, USGMA, Madison, Wis.	Enforcement
8/3	Ron Wahlin, Engineer, Mpls. Minn.	APW road work
8/4	S. G. DeBoer, WCD Game Mgmt. Supv. B.R. Falls	Deer management
8/11	Howard Jackson, LaCrosse Fish Con. Laboratory	Obtain fish for experiments
8/11	Robert N. Hieb, " "	" "
8/24	Leonard M. Springer, Federal Aid, Mpls. Minn.	Visit
8/24	Robert Fisher, " "	" "
9/3	Richard Johnson, Engineer, Mpls. Minn.	APW road contract
9/4	Tim Curran, Mauston Newspapers	Personnel changes at refuge
9/8	David Clegg, Ecessey, England, Zoologist	Tour of Refuge
9/13	H. O. Duncan, USGMA, Oshkosh, Wis.	Courtesy Call

C. Refuge Participation

- 1/6 Pospichal and Kotok to Poynette Game Farm to attend "Wing-bee".
- 1/7 Mid-winter waterfowl inventory
- 2/2-8 Pospichal and Kotok attended Regional Conference at Minneapolis.
- 2/2 Sierra Club of Madison, Wis. - hiking on refuge
- 2/24 Pospichal to Minneapolis - Joint Bureau-WCD game management meeting.
- 2/29 Refuge staff and fire equipment assisted WCD with forest fire threatening Village of Necedah.
- 3/5 Carter showed movie to 26 Necedah firemen on fire prevention.
- 3/14-28 Pospichal attended supervision workshop at Denver, Colorado.
- 3/15-22 Arrowsmith attended equipment workshop at Rapid City, So. Dak.
- 3/17 Rudolph and Kotok to Huster School - slide talk to 73 students
- 3/17 Kotok to Tomah, Wis. slide talk to 40 J.C.'s re: refuge operations
- 3/18 Rudolph and Kotok to Rockview School - slide talk to 75 students
- 4/7 Pospichal to Wilton, Wis. - slide talk to 40 "Sportsmen"
- 4/9 Pre-construction conference on APW dike construction with contractor Templin and R.O. Engineers Wright and Wahlin.
- 4/10 Meeting with Messr's. Tennant and Plenge of State Water Regulatory Board re: water rights at Remington Ditch.
- 4/20 Refuge staff attended Juneau County Game Hearings at Mauston.
- 5/4 Kotok gave tour to 20 7th & 8th grade students from Rockview School
- 5/25 Pospichal gave slide talk to Grades 3 and 4 Necedah Grade School on native grouses.
- 6/1 Kotok gave tour to Ed Trecker from R.O. re: recreational facilities.
- 6/5 Rudolph gave slide talk and tour of refuge to 33 teachers from Sheboygan State Teachers College.
- 6/22 Gritman and Rudolph gave slide talk and tour to 50 4-H Award students and their leaders from Madison, Wis.
- 6/14 Pospichal attended Board of Director's meeting of Wisconsin Bowhunter's Association held on refuge lawn.

- 7/21 Kotok presented slide talk to Juneau County Historical Society, 30 in attendance.
- 8/8 Sierra Club of Madison, Wis. 10 members for hike on refuge.
- 8/24-28 Collins attended Bird Banding Workshop at Agassiz Refuge.
- 9/12 Collins and Dundas spoke to participants of Wisconsin Bow-hunter's Association annual shoot south of refuge headquarters, approximately 2,000 in attendance.
- 9/14-17 Collins, Kotok, Gritman and Carter attended law enforcement workshop at Winona, Minnesota.
- 9/24 Collins attended goose management meeting at Horicon, Wis.
- 9/25 Collins and Dr. Wm. E. Green cut 20-minute radio tape on refuge deer hunting.
- 10/8 Kotok attended West Central Area Conservation Warden's meeting at Eau Claire, Wis. and shot the police practical pistol course.
- 10/23 Collins and Dr. Wm. E. Green cut 20-minute radio tape on goose hunting.
- 11/4 Collins showed slides and gave talk to FFA meeting at Mauston, Wis., about 60 in attendance.
- 11/16 Refuge staff attended a training session at the Necedah Fire Station on proper use and maintenance of fire extinguishers.

Robert Arrowsmith belongs to the Rockview and Necedah High School Boards and remains active as a 4-H Leader. He donates many hours to these organizations bringing credit to the Bureau and to the refuge.

Vern Rudolph has been a Legionnaire for 5 years and at present holds the position of First Vice Commander.

Harold Carter has been active in the Necedah Volunteer Fire Department for the past nine years.

D. Hunting

The refuge offers excellent deer hunting opportunity to the Wisconsin sportsman. Two bow and arrow seasons and one rifle season attracts thousands of hunters into the refuge. Other types of hunting,

including waterfowl, are not permitted on the refuge because of the unlimited opportunities offered on CWCA lands adjacent to the refuge.

The early bow and arrow season ran from September 26 through November 17, offering many balmy autumn days in pursuit of the white-tail. Thirty deer were estimated taken during this season, 26 of these were killed opening weekend. Most hunters hunted roads and trails, being somewhat timid to venture too far into the woods. After the big play on opening weekend, few archers took advantage of the numerous opportunities to hunt deer during the week when no other hunters were around.

In this portion of Wisconsin, rifle deer season is the reason men live and hunting tales are retold until spring walleye season begins. The nine day season beginning November 21 resulted in the removal of 320 buck and antlerless deer. This is the second year for the "variable quota system" which enables a party of four hunters to qualify for the taking of an additional "any" deer. Approximately 5,000 "any" deer permits were issued for the management unit in which the refuge lies and it is presumed that a good many of these permits were used on the refuge. Since hunters have the option of registering their deer either in the county or adjoining county in which the deer was shot we have no way of knowing the exact refuge deer kill.

The late bow and arrow season is a spectacular event in "unsportsmanship" and "meat hunting". Over 4,000 hunters were present on opening day confining their activities to the lower one-third of the refuge. Hunters were figuratively and literally behind every tree and brush pile. Deer were driven onto the ice and attacked with knives as they lay sprattled on the ice. Many hunters were disturbed by this "carnage" which to me had all the qualities of the "Roman Amphitheaters" when Christians were thrown to the lions. By bow hunting standards, hunting success was very good and it would be unusual to find anyone who did not have at least half a dozen shots.

By direct registration, late bow hunters managed to remove 350 deer (any sex) while about 340 of these were taken the opening day. By the end of the year few deer have been observed in Area 3 but deer sign on other portions of the refuge indicate a substantial number of deer survived the hunting season. To date, the winter has been very open and no "yarding" has been noted. We suspect an influx of deer during the winter period and if weather and reproduction factors continue to remain normal we can expect a high number of deer to be harvested again next year.

The Necedah goose quota was dropped in 1963 since it appears unlikely that we can reach the 2,000 bird kill allotted to this refuge. This year approximately 1,130 geese were killed on the firing line and farm land

south and west of the refuge. The Meadow Valley area accounted for an additional 300 birds that are not included in the above figure. This was the best hunting season since 1959 when 3,000 birds were killed. Heavy hunter concentration during the opening weekend resulted in a very high kill as geese moved off the refuge to feed. However, the kill dropped sharply after the opening weekend as geese refused to move off the refuge. This resulted in the usual complaint that the refuge was "feeding" the geese and not giving the hunters a chance. Early morning flights provided most of the shooting this season although on several evenings some good kills took place. By the last two weeks of the season, hunting had dropped off to the point where it was hardly noticeable.

D. Violations

The following violations occurred during the 1963 refuge deer hunting season and were made by refuge personnel and U.S. Game Management Agents. These cases were processed in the U. S. Commissioner's Court but were delayed because there was an intervening period when there was no U. S. Attorney.

U. S. Commissioner J. Rice, Sparta, Wisconsin

<u>Name</u>	<u>Violation</u>	<u>Fine</u>
James H. Cudnowski, Milwaukee, Wis	Camping and had fire	\$20.00
Kenneth R. Kotes, Racine, Wis.	" "	"
Delmer M. Betzhold, Grafton, Wis.	No deer tag	30.00
Julius W. Zander, LaCrosse, Wis.	Litter on refuge	10.00
Sven Flodstrom, St. Charles, Ill.	Camp on refuge	15.00
Harold Peterson, Chicago, Ill.	" "	15.00
Glen A. Nelson, Batavia, Ill.	" "	15.00
Robert J. Allbaugh, Yuba, Wis.	Block fire lane w/auto	15.00
Richard A. Carley, Racine, Wis.	No back tag	10.00
Robert J. Magnuson, Omro, Wis.	Trespass on refuge (hunt turtles)	35.00

U. S. Commissioner James Bannen, LaCrosse, Wis.

Stephen A. McMackin, Marengo, Ill.	No deer tag in possession	25.00
------------------------------------	---------------------------	-------

The following violations occurred during the three 1964 refuge deer hunting seasons. Since we have had great difficulty in processing many of our cases in federal court the past several years due to intervening periods when there was no judge or U.S. Attorney, it has been the Bureau policy to process as many cases as possible in State court. The following cases were run through State court with the able assistance of Ronald Kubisiak, our local warden:

State Court - Juneau County Judge Wm. Curran, Mauston, Wisconsin

<u>Name</u>	<u>Violation</u>	<u>Fine*</u>
Irvin H. Steve, St. Charles, Ill.	No back tag	10.00
George D. Kimmerly, Madison, Wis	" "	10.00
Mabson Graidon, Edgerton, Wis.	No party armband	50.00
August Tarwoski, Milwaukee, Wis.	Hunt deer in closed area	25.00
James Murphy, Milwaukee, Wis.	" "	25.00
Lawrence F. Strassman, Wausau, Wis	" "	25.00
Kieth Gonyien, Onalaska, Wis.	" "	25.00
Robert Johnson, Stoughton, Wis.	" "	25.00
Lewis Batterman, Fond du Lac, Wis	" "	25.00
Kieth Brooks, Racine, Wis.	" "	10.00
Julius E. Nielsen, Racine, Wis.	" "	25.00
Allen Johnson, Schofield, Wis.	" "	10.00
Gerald A. Heman, Janesville, Wis	Hunt without red cap (deer)	10.00
Jack Tilton, Janesville,	" "	10.00
Hubert M. Bayless, Kenosha, Wis.	" "	10.00
John D. Clary, Camp Douglas, Wis.	Transport uncased firearm	15.00
Robert J. Reifsnyder, " "	" "	15.00
Michael Banasik, Milwaukee, Wis	Hunt deer w/borrowed license	75.00
Orson Robertson, Monroe, Wis.	" "	50.00
Robert Baker, Wauwatosa, Wis.	Allow another to use his "	75.00
Robert D. Lewis, Chicago	Hunt with improper license	50.00
Wayne F. Gempler, Juda, Wis.	Allow another to use his lic.	75.00
Harry Gibson, Hales, Corner, Wis	Hunt w/o metal deer tag	50.00
Charles R. Robertson, Monroe, Wis	" "	25.00
Daniel L. Heinecke, Allenton, Wis.	" "	25.00
Edwin W. Foerster, Jr. Madison, Wis	" "	25.00
Richard J. LaFond, Neenah, Wis.	" "	25.00
Glenn A. Hornburg, Milwaukee, Wis.	" "	25.00
Dennis R. Hagan, Madison, Wis.	Litter on public land	25.00

*Court cost for each case is \$3.00

Approximately 24 refuge cases are pending in the U. S. Commissioner's Court, LaCrosse, Wisconsin. These violations also occurred during the deer hunting seasons in the fall of 1964.

F. Safety

The following safety subjects were discussed during the year:

Pospichal discussed Department Safety Creed, motor vehicle accidents and reviewed injuries reported in safety bulletins.

Safety film "Fireman at Your Door" from Aetna Life Affiliated Co.

Safety film "Then It Happened" from Wis. Conservation Dept. on fire fighting techniques.

Safety film "Farm Tractor Safety" from the North Dakota Agricultural College.

Gritman reviewed Bureau and refuge safety programs.

Collins discussed the "Safety Code Book" purchased from the Government Printing Office, equipment operation and refilling of empty fire extinguishers.

Gritman read the President's Proclamation on fire safety. Fire reports for Bureau were read and discussed. Electrical hazards in refuge buildings was reviewed. Safety committee for station was organized.

Demonstration by Carter and Gritman on use of refuge fire-fighting equipment.

The last "lost-time" accident occurred at this station on 12/31/63. We have no accidents or injuries to report during 1964. Our safety record now stands at 365 days since the last lost-time accident.

VII. Other Items

A. Items of Interest

Numerous personnel changes occurred this year as a result of promotions and additional positions to the refuge staff.

Carl Pospichal, manager of the Necedah Refuge for the past eight years, accepted the manager's position at Rice Lake Refuge near McGregor, Minnesota in June. This is "Home" for Carl who was raised not too far from his new assignment. Carl left behind many friends and acquaintances and they will remember him as a man who shoots straight from the shoulder. The refuge staff knows that he shot straight with rifle or bow for he rarely, if ever, went without his deer. He is also known for his many hobbies, from arrowhead making, to photography, to his fine fishing skill that many were envious. His friends at the refuge wish Carl and Etta the very best in his new position at Rice Lake.

Carl's replacement was Ed Collins, former refuge manager of the new Pocasse Refuge in northcentral South Dakota. Ed is a transplant western who still yearns for the prairie but who is beginning to show some signs of adjustment. Ruth and the two children, Kim and Sue, have fallen in love with their new home and have already made many new friends. The Collins' moved to Necedah in July.

Jim Gritman was hired as refuge forester in April to fill a new position created this year. Jim is 32, married and is a graduate of the University of Missouri. He came to us from Dierks Forest, Inc. of Battiest, Oklahoma where he had been a field forester for the past 6 years. Jim's big job will be type mapping this 40,000 acre refuge and preparing a long range timber management plan. Jim already seems to have command of the situation and comes up with many good ideas to further the refuge program. We are happy to have him as a member of our staff.

Joe Kotok, refuge manager trainee, for the past 33 months was transferred to the Upper Mississippi Wildlife and Fish Refuge in December. Joe is now the refuge manager of the Prairie du Chien District of the Upper Mississippi Refuge. We will miss Joe's vividly described deer hunting tales, particularly the ones where "this monstrous buck jumps just as Joe unleashes a death dealing arrow" and through some quirk of fate manages to escape. Or some such story as that.

It was a pleasure this summer to have the additional help provided by two college students and one high school student. The Bureau hired these boys to give them the opportunity to become acquainted with our operations and to give the refuge the chance to evaluate them as potential career candidates. Vern Wilderspin served as student assistant, Tom Reicosky as student-laborer, and Bill Sery as the Bureau and Izaak Walton League outstanding conservation candidate. It was a pleasure to work with these men and it is particularly pleasing to see young men with such vitality and enthusiasm for their work. Each left with a good understanding of our program plus an assurance and confidence in the many advantages of conservation work.

The economy of this area should get a big boost when the new factory nearing completion in the village of Necedah starts into operation. The Triple "P" Company is constructing a \$ 2,000,000.00 building to house its operation which is still kept somewhat secretive. It is thought that the company will manufacture wood products materials but the exact nature of the product is kept secret to gain an advantage over its competitors. At least 100 people will be employed when the factory opens in July, 1965.

A new colored refuge map was prepared and printed this year and is a vast improvement over the old black and white map. Most of the 12,000 deer hunting maps were distributed during the hunting season and from hunter reports were well thought of. Public roads, water impoundments and hunting zones are more clearly defined resulting in less refuge correspondence, less direction and questioning of personnel at refuge headquarters and a generally better informed hunting public.

Plans for an addition to the headquarters office were prepared by the refuge staff and approved by the Regional Office. Excavating and footings were done by refuge personnel, the basement wall and "framing in" was on informal bid. By the end of December the block wall was nearly completed and we were awaiting word from the contractor for a starting date on the woodwork. The 14 x 26 foot addition is a long needed improvement and will provide the manager with a small private office plus a staff conference room. The interior will be finished by force account.

Gritman prepared Section III. F.

Rudolph prepared Section I. A; III. A, IV., VI. B, E.; and most of the NR Forms.

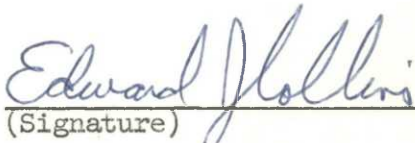
Collins prepared remainder and edited the entire report.

B. Photographs

Photographs taken by Pospichal, Kotok and Collins.

SIGNATURE PAGE

Submitted by:


(Signature)

Edward J. Collins

Date: February 9, 1965Refuge Manager
Title

Approved, Regional Office:

Date: 2/11/65
(Signature)*Asst.*
Regional Refuge Supervisor

W A T E R F O W L

REFUGE Necedah

MONTHS OF January TO April, 19 64

(1) Species	(2) Weeks of reporting period									
	: 1/1-4 : 1	: 1/5-11 : 2	: 1/12-18 : 3	: 1/19-25 : 4	: 1/26-2/1 : 5	: 2/2-8 : 6	: 2/9-15 : 7	: 2/16-22 : 8	: 2/23-29 : 9	: 3/1-7 : 10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
<u>Coot:</u>										

3-17 ua
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Necedah

MONTHS OF January TO April, 19 64

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	3/8-14 11	3/15-21 12	3/22-28 13	3/29-4/4 14	4/5-11 15	4/12-18 16	4/19-25 17	4/26-5/2 18		
Swans:										
Whistling					81	21	1		721	
Trumpeter										
Geese:										
Canada	40	450	300	130	600	2,500	3,500		52,640	
Cackling (Richardson's)						10			70	
Brant										
White-fronted										
Snow						20	10		210	
Blue						20	10			
Other										
Ducks:										
Mallard		30	200	120*	800	1,050	830		21,210	
Black			10	10	50	30	10		770	
Gadwall						10			70	
Baldpate			10		10	140	60		1,540	
Pintail			10		100	100	30		1,780	
Green-winged teal					30	50	30		770	
Blue-winged teal					80	370	290		5,180	
Cinnamon teal										
Shoveler					10	30	40		560	
Wood				10		10	30		350	
Redhead						230			1,610	
Ring-necked				60	880	700	100		12,180	
Canvasback						10	1		77	
Scaup				30	930	960	190		14,770	
Goldeneye		20	70	170	660	90	30		7,280	
Bufflehead		10	10	10	40	80	40		1,330	
Ruddy										
Other Hooded Merganser				30	10	10	30		560	
Common Merganser					10	10			140	
Coot:			10	20	40	1,000	480		10,850	

*See reverse side

(over)

	(5)	(6)	(7)	SUMMARY
	Total Days Use	Peak Number	Total Production	
Swans	721	81		Principal feeding areas Rynearson and Sprague
Geese	53,130	3,500		Pools and agricultural units
Ducks	69,477	3,710		Principal nesting areas
Coots	10,850	1,000		
				Reported by Carl E. Pospichal, Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

WATERFOWL

REFUGE Necedah

MONTHS OF May 1 TO August 29, 19 64

(1) Species	(2) Weeks of reporting period									
	4/26-5/2	5/3-9	5/10-16	5/17-23	5/24-30	5/31-6/6	6/7-13	6/14-20	6/21-27	6/28-7/4
	1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling	1	1								
Trumpeter										
Geese:										
Canada	100	30	25	50	50	50	50	50	50	50
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	700	750	750	750	800	800	850	880	910	910
Black	50	50	50	50	40	40	50	80	80	80
Gadwall		10								
Baldpate										
Pintail		10								
Green-winged teal	60	70	70	70	80	80	80	90	95	95
Blue-winged teal	380	400	400	400	400	400	410	430	445	445
Cinnamon teal										
Shoveler		10								
Wood	40	50	50	100	100	100	150	200	260	300
Redhead	10	10	10							
Ring-necked	30	20	10							
Canvasback										
Scaup	70	10	20	10				10	10	10
Goldeneye	20	10								
Bufflehead	40	20								
Ruddy										
Other Hooded Merganser	20	20	20	20	20	20	20	20	20	20
Coot:	400	100	100	150	150	150	150	150	150	160

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Cont. NR-1

(Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUGE NecedahMONTHS OF May 1 TO August 29, 19 64

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	: 7/5-11 : 11	: 7/12-18 : 12	: 7/19-25 : 13	: 7/26-8/1 : 14	: 8/2-8 : 15	: 8/9-15 : 16	: 8/16-22 : 17	: 8/23-29 : 18			
Swans:											
Whistling									14		
Trumpeter											
Geese:											
Canada	50	50	125	125	150	150	150	150	10,185	3	15
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	920	920	920	920	950	700	700	750	104,160	27	480
Black	80	80	80	80	80	80	80	100	8,610	4	50
Gadwall									70		
Baldpate								100	700		
Pintail									70		
Green-winged teal	100	100	100	100	100	100	100	100	11,130	1	60
Blue-winged teal	450	450	450	450	450	600	600	600	54,005	11	330
Cinnamon teal											
Shoveler									70		
Wood	330	350	350	350	350	350	350	350	28,910	2	60
Redhead									210		
Ring-necked									420		
Canvasback											
Scaup	40	40	40	40	40	40	40	40	3,220	3	40
Goldeneye									210		
Bufflehead									420		
Ruddy											
Other Hooded Merganser	30	30	30	30	30	30	30	30	3,080	-	10
Common Merganser	2	2	2						42		
Coot:	160	160	120	25	25	25	25	25	15,575	-	30

(over)

	(5)	(6)	(7)	SUMMARY
	Total Days Use	Peak Number	Total Production	
Swans	14	1	0	Principal feeding areas <u>Sprague and Rynearson Pools</u>
Geese	10,185	150	15	
Ducks	212,205	2,040	1,020	Principal nesting areas <u>Sprague and Rynearson Pools</u>
Coots	15,575	400	30	
				Reported by <u>Joseph Kotok, Ass't. Refuge Manager</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

W A T E R F O W L

REFUGE Necedah

MONTHS OF September TO December, 19 64

(1) Species	(2) Weeks of reporting period									
	8/30-9/5	9/6-9/12	9/13-9/19	9/20-9/26	9/27-10/3	10/4-10/10	10/11-17	10/18-24	10/25-31	11/1-7
	1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling									1	1
Trumpeter										
Geese:										
Canada	300	300	1,100	3,700	6,530	8,190	8,460	8,460	8,460	6,730
Cackling			1			50	100	100	200	200
Brant										
White-fronted				1						
Snow			1	10	20	600	110	110	110	50
Blue				5	10	570	105	105	105	50
Other										
Ducks:										
Mallard	850	850	1,000	1,200	1,500	5,610	4,595	4,600	8,450	8,950
Black	150	150	200	250	300	500	440	450	2,510	950
Gadwall	50	50					100	100	60	100
Baldpate	1,310	1,310	3,000	6,000	6,200	4,000	5,010	5,000	8,200	2,200
Pintail			1	10	100	150	250	300	850	200
Green-winged teal	100	100	50	50	200	200	100	100		
Blue-winged teal	300	300	150	150	50	50				
Cinnamon teal										
Shoveler										
Wood	600	600	750	900	1,000	500	450	400	350	420
Redhead							1	1		
Ring-necked				50			150	200		
Canvasback							2	2	15	
Scaup	40	40				10	50	50	100	
Goldeneye										
Bufflehead										
Ruddy	1			1					20	
Other Hooded Merganser							13	13	60	30
Coots:	25	500	1,000	2,750	3,000	4,500	6,620	6,600	7,750	2,500

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Cont. NR-1

(Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUGE

Necedah

MONTHS OF

September

TO December

, 19 64

(1) Species	(2) Weeks of reporting period								(3)	(4)
	11/8-14	11/15-21	11/22-28	11/29-12/5	12/6-12	12/13-19	12/20-26	12/27-1/2	Estimated waterfowl days use	Production Broods: Estimated seen : total
Swans:										
Whistling		1							21	
Trumpeter										
Geese:										
Canada	7,200	7,175	300						468,335	
Cackling	200	100							6,657	
Brant										
White-fronted									7	
Snow	75	5							7,637	
Blue	75	10							7,245	
Other										
Ducks:										
Mallard	8,600	4,500	10						355,005	
Black	950	405							50,785	
Gadwall	150	300							6,370	
Baldpate	2,300	1,000							318,710	
Pintail	200	100							15,127	
Green-winged teal									6,300	
Blue-winged teal									7,000	
Cinnamon teal										
Shoveler										
Wood									41,790	
Redhead									14	
Ring-necked									2,800	
Canvasback									133	
Scaup									2,030	
Goldeneye										
Bufflehead										
Ruddy									154	
Other Hooded Merganser	150	400							4,662	
Coot:	2,500	350							266,665	

(over)

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	21	1		Principal feeding areas <u>Rynearson Pools No. 1 & No. 2;</u> <u>Sprague-Mather Pool and agricultural units</u>
Geese	489,881	9,410		
Ducks	810,880	20,615		Principal nesting areas _____
Coots	266,665	7,750		
Reported by <u>Edward J. Collins</u>				Edward J. Collins, Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

(other than waterfowl)

Refuge.....Necedah

Months of January to April 1956

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Horned Grebe	6	4/10	Present in small numbers remainder of period							
Pied-billed Grebe	1	4/6	Common throughout balance of period							
Double-crested Cormorant	3	4/6	Small numbers used Sprague pool							
Great Blue Heron	2	Winter	visitor from Wisconsin River, very common after April							
Green Heron	1	4/16								
Black-crowned Night Heron	1	4/16	Small number. Spring and summer residents							
American Bittern	1	1/23	Common status after mid-April							
Virginia rail	1	4/6	Common status							
Sora Rail	1	4/8	Common status							
Sandhill Crane	10	4/24	Increase use apparent. Nesting resident							
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	1	3/29	Common status thereafter							
Woodcock	Influx	4/12	Birds singing on this date							
Common Snipe	4	4/24	Singing common							
Yellow-legs	5	4/17	Common on 4/23							
Herring Gull	3	3/31	Limited number through April							
Ring-billed Gull	12	3/31	Common status							
*Common Tern	15	5/6	Relatively common thereafter							
Black tern	10	5/6	Common rest of period							
Spotted Sandpipers	3	5/3	Common rest of period							
Forster's Tern	100	5/7	Occasional thereafter							
*Arrival of several species delayed by late ice conditions.										

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove					Cooper's & Sharp-shinned hawks fairly common.
White-winged dove					Goshawks more common than usual. Northern
					Shrike fairly common through February. One
					Broad-winged hawk observed on 4/29.
IV. <u>Predaceous Birds:</u>					
Golden eagle					
Duck hawk					
Horned owl					
Magpie					
Raven					
Crow					
Bald eagle	2	1/7	Frequent visitor	from concentration	at Peterwell Dam on Wisconsin River
Barred Owl			Fairly common	throughout period	
Screech Owl			Limited number	present as resident	
Red-tailed Hawk			Fairly common	as resident	
Red-shouldered Hawk			April visitor		
Rough-legged Hawk	1	1/29	Common		
Marsh Hawk	1	4/2	Present through	period in moderate numbers	
Turkey Vulture			Small number	late April	
Reported by Carl E. Pospichal, Refuge Manager.					

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge.....Necedah.....

Months of May.....to August.....1964

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Pied-billed grebe			Summer resident - common							
Double-crested cormorant			Spring - early summer resident - becoming less common				1	-	-	5
Great Blue Heron			Summer resident - very common				1	7	21	50
Green Heron			Summer resident - common							
Black-crowned Night Heron			Summer resident - occasional							
Common Egret			Summer visitor 3 8-17-64							
American Bittern			Summer resident - common							
Sandhill Crane			Summer resident - common							75
Virginia rail			Summer resident - common							
Sora rails			Summer resident - common							
II. <u>Shorebirds, Gulls and Terns:</u>										
<u>Terns:</u>										
Killdeer			Summer resident - common							
Woodcock			"							
Common snipe			"							
Greater & Lesser Yellowlegs			"							
Herring Gull			Summer visitor - occasional							
Ring-billed Gull			"							
Black Tern			Summer resident - common							
Common Tern			"							
Spotted Sandpiper			"							
Upland Plover			"							
Pectoral Sandpiper			August visitor - occasional							
Semi-palmated "			"							

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	Summer resident - very common				
White-winged dove	"				
IV. <u>Predaceous Birds:</u>					
Golden eagle	Occasional visitor				
Duck hawk	"				
Horned owl	Permanent resident - very common			Sharp-shinned hawk	Permanent resident
Magpie	"			Rough-legged hawk	Summer "
Raven	"				
Crow	Permanent resident - very common				
Osprey	Summer resident - occasional				
Bald eagle	"				
Screech owl	Permanent resident - common				
Long-eared owl	" " Occasional				
Saw-whet owl	" " "				
Barred owl	" " Common				
Red-tailed hawk	" " "				
Marsh Hawk	Summer resident				
Sparrow hawk	" " "				
Cooper's Hawk	Permanent resident Occasional				

Reported by Joseph Kotok, Ass't. Refuge Manager

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

Months of Sept. 1 to Dec. 31 1964

Refuge Necedah Months of Sept. 1 to Dec. 31 1964

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Pied-billed Grebe	Summer Resident		Common	into November						
Double-crested Cormorant	"		Common	in summer, uncommon in fall						
Great Blue Heron	"		Common	summer and fall						
Green Heron	"		"							
American Egret	"		Occasional	in early September						
Black-crowned Night Heron	"		"							
American Bittern	"		Fairly common	in September						
Virginia Rail	"		Common	in September						
Sora Rail	"		"							
Sandhill Crane	"		130	11/5	25	11/19				
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	Summer Resident		Common	during October						
Woodcock	"		Common	during October and early November						
Common snipe	"		"							
Lesser Yellowlegs	"		Fairly common	in fall						
Herring Gull	"		"							
Common Tern	"		Fairly common	in September						
Black Tern	"		Common	in September						
Spotted Sandpiper	"		Fairly common	in September and early October						
Upland Plover	"		Fairly common	in early September						
(over)										

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove	Summer resident	Common till late November			
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow Bald Eagle Barred Owl Screech Owl Red-tailed Hawk Rough-legged Hawk Marsh Hawk Long-eared Owl Saw-whet Owl	Common during October and November Resident Winter resident Resident Year-round visitor Resident Resident Resident Winter resident Common till late November Resident - fairly common Resident - small number	Common Uncommon Abundant 15 11/15	Several still present Sharp-shinned Hawk Cooper's Hawk Sparrow Hawk	Resident - fairly common Common into November	
Reported by <u>Edward J. Collins</u>					

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

- (2) First Seen: The first refuge record for the species for the season concerned.

- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.

- (4) Last Seen: The last refuge record for the species during the season concerned.

- (5) Production: Estimated number of young produced based on observations and actual counts.

- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Necedah

For 12-month period ending August 31, 19 64

Reported by Joseph Kotok

Title Ass't. Refuge Manager

(1)	(2)		(3)	(4)		(5)
Area or Unit Designation	Habitat		Use-days	Breeding Pairs		
	Type	Acreage		Population	Production	
Rynearson No. 1 & SE $\frac{1}{4}$ of Refuge	Crops	146	Ducks	453.950	50	200
	Upland	8.789	Geese	161.966	4	10
	Marsh	1.500	Swans	931	-	-
	Water	1.000	Coots	85.554	15	15
	Total	11.435	Total	702.401	69	225
Rynearson No. 2 & SW $\frac{1}{4}$ of Refuge	Crops	325	Ducks	695.422	25	100
	Upland	7.455	Geese	346.920	1	-
	Marsh	1.000	Swans	-	-	-
	Water	700	Coots	10.129	-	-
	Total	9.480	Total	1,052.471	26	100
Sprague-Mather Pool - East, West Boundary	Crops	4	Ducks	741.349	150	600
	Upland	4.540	Geese	157.591	2	5
	Marsh	1.996	Swans	21	-	-
	Water	3.000	Coots	214.200	15	15
	Total	9.540	Total	1,113.161	167	620
Pools 18,19,27 & 28 and N $\frac{1}{4}$ of Refuge	Crops	45	Ducks	92.400	24	120
	Upland	7.107	Geese	3.640	-	-
	Marsh	1.500	Swans	-	-	-
	Water	500	Coots	2.520	-	-
	Total	9.152	Total	98.560	24	120
Totals:	Crops	520	Ducks	1,983.121	219	1,020
	Upland	27.887	Geese	670.117	7	15
	Marsh	6.000	Swans	952	-	-
	Water	5.200	Coots	312.403	30	30
	Total	39.607	Total	2,966.593	286	1,065
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.
- (5) **Production:** Estimated total number of young raised to flight age.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Necedah Months of January to April 30, 19 64

Form NR-2 - UPLAND GAME BIRDS

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specificoally requested. List introductions here.
Ruffed Grouse	34,000									Drumming activity was slightly down from year ago - observa- tions comparable to same period last year
Sharp-tailed Grouse	25,000									Dancing ground activity indicates a light increase from that of a year ago. Observations within the habitat units are common.
Bobwhite Quail	5,000									No quail have been observed on the refuge proper since severe winter of 1961.
Ring-necked Pheasant	5,000									Uncommon
Wild Turkey	34,000								200	A substantial increase has been noted, based on winter concentration counts.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- | | |
|---------------------|--|
| (1) SPECIES: | Use correct common name. |
| (2) DENSITY: | Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. |
| (3) YOUNG PRODUCED: | Estimated number of young produced, based upon observations and actual counts in representative breeding habitat. |
| (4) SEX RATIO: | This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. |
| (5) REMOVALS: | Indicate total number in each category removed during the report period. |
| (6) TOTAL: | Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons. |
| (7) REMARKS: | Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested. |

* Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Necedah

Months of May to August 31, 19 64

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed Grouse	34,000		10							Broods commonly observed during August - population slightly below same period year ago.
Sharp-tailed Grouse	25,000		-							No broods observed, however observations of mature birds common within habitat units. Population slightly above that of a year ago.
Bobwhite Quail	5,000									Several quail observed this summer, first observations on the refuge since severe winter of 1961.
Ring-necked pheasant	5,000		1							One brood observed on secondary unit. Field trial birds stocked south of refuge - birds uncommon.
Wild Turkey	34,000		12						300-350	Population continues to increase, broods are large, generally 8 - 10 per brood. Production best ever both on and off the refuge.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

UPLAND GAME BIRDS

Refuge Necedah Months of Sept. 1 to Dec. 31, 19 64

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed Grouse	34,000									Population good but down from last year. Hunting fair.
Sharp-tailed Grouse	25,000									Dancing ground counts indicate increase over last year. Occasional sightings.
Bobwhite Quail	5,000									Several coveys sighted during fall and summer on and off refuge. Apparent increase since severe winter of 1961-62.
Ring-necked Pheasant	3,500									Several sightings during summer and fall. These are pheasant farm birds stocked in public shooting areas south and west of the refuge.
Wild Turkey	25,000									Excellent production w/many 10 - 12 clutches. Population estimated at 500. Winter feeding by State still occurs.
Woodcock	5,000									Random sightings. Refuge production unknown. Light fall migration.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1753

Form NR-3

(June 1945)

BIG GAME

Refuge

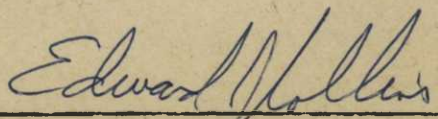
Necedah

Calendar Year 1964

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions	(7) Estimated Total Refuge Population		(8) Sex Ratio
			Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss		At period of Greatest use	As of Dec. 31	
Common Name	Cover types, total Acreage of Habitat	Number								Number	Source		
White-tailed Deer	35,000 acres of timber, brush and marsh		700*									2,700	1,200
Black Bear	35,000 acres of timber, brush and marsh		0									2 - 4	2 - 4
*Early Bow season 30 Gun Season 320 Late Bow Season 350 700													

Remarks:

Reported by


 Edward J. Collins

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Necedah

Year ending April 30, 1964

(1) Species	(2) Density	(3) Removals	(4) Disposition of Furs						(5) Total				
Common Name	Cover Types & Total	Acres Per Animal	Hunting	Fur Harvest	Predator Control	For Re-stocking	For Re-search	Share Trapping	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	Popula- tion	
	Acreage of Habitat							Permit Number					Trappers Share
Muskrat				409				T-9953	205	204	204	0	
Mink				40				T-9953	20	20	20	0	
Raccoons				70	100			T-9953	70			100	
Beaver	86 miles of ditches			30				T-9954	19				
								T-9955	11				
									30	0	0	0	35
PRICES RECEIVED FOR PELTS:													
	No. of Pelts	Gov't.	Permitted Trapper										
Muskrat	205		256.45										
	204	290.93											
Mink	20	210.11	251.50										
Raccoon	20		20.00 (Trapper unable to sell pelts)										
Beaver	19		198.00 (L. Rudolph sold to Louis Gorwitz, Inc. Wausau, Wis.)										
	11		115.50 (L. Nowicki sold to Ed Hillman, Brillion, Wis.)										
* List removals by Predator Animal Hunter													

* List removals by Predator Animal Hunter

REMARKS: 6 muskrats caught accidentally in beaver sets not reported above retained by beaver trappers
1 otter caught accidentally in beaver set turned over to WCD for disposition.

Reported by Carl E. Pospichal, Refuge Manager

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

DISEASE

Refuge Hecedah Year 1964

Botulism

Lead Poisoning or other Disease

* Period of outbreak None Noted

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
---------------------	---------------	-------------

(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) _____

Condition of vegetation and invertebrate life _____

Remarks _____

Kind of disease None Noted

Species affected _____

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks _____

PUBLIC RELATIONS

(See Instructions on Reverse Side)

Refuge NecedahCalendar Year 1964

1. Visits

a. Hunting 17,000 b. Fishing 13,500 c. Miscellaneous 17,200 d. TOTAL VISITS 47,700

1a. Hunting (on refuge lands)

TYPE	HUNTERS	ACRES	MANAGED BY
Waterfowl			
Upland Game			
Big Game	<u>17,000</u>	<u>40,000</u>	<u>ESFW</u>
Other			

Number of permanent blinds _____

Man-days of bow hunting included above 13,000Estimated man-days of hunting on lands adjacent to
refuge 50,000

1b. Fishing (area open to fishing on refuge lands)

TYPE OF AREA	ACRES	MILES
Ponds or Lakes		
Streams and Shores	<u>500</u>	

1c. Miscellaneous Visits

Recreation 13,700 Official 500Economic Use 3,000 Industrial _____

2. Refuge Participation (groups)

TYPE OF ORGANIZATION	ON REFUGE		OFF REFUGE	
	NO. OF GROUPS	NUMBER IN GROUPS	NO. OF GROUPS	NUMBER IN GROUPS
Sportsmen Clubs			<u>2</u>	<u>1,540</u>
Bird and Garden Clubs	<u>2</u>	<u>210</u>		
Schools	<u>1</u>	<u>20</u>	<u>3</u>	<u>188</u>
Service Clubs			<u>2</u>	<u>100</u>
Youth Groups	<u>1</u>	<u>40</u>	<u>1</u>	<u>60</u>
Professional-Scientific	<u>1</u>	<u>33</u>	<u>1</u>	<u>30</u>
Religious Groups	<u>1</u>	<u>2</u>		
State or Federal Govt.	<u>1</u>	<u>2</u>		
Other	<u>2</u>	<u>35</u>	<u>3</u>	<u>96</u>

3. Other Activities

TYPE	NUMBER	TYPE	NUMBER
Press Releases	<u>5</u>	Radio Presentations	<u>6</u>
Newspapers (P.R.'s sent to)	<u>8</u>	Exhibits	
TV Presentations		Est. Exhibit Viewers	

INSTRUCTIONS

Item 1: Total of a, b, and c, equal d.

"Visit" - definition. Any person who is on refuge lands or waters during a day or part thereof for the purpose of: hunting, fishing, bird-watching, recreation, business or economic use, official visit, or similar interest. INCLUDE - those who stop within the refuge while traveling on a public highway because of an interest in the area. EXCLUDE - persons engaged in oil or other industry not directly related to the refuge, persons using refuge as most direct route or principal avenue of traffic, and those boating on navigable rivers or the Intercoastal Canal, unless they stop to observe wildlife on the refuge.

Computing visits. Where actual counts are impractical, "sampling" is used with midweek and week-end samples varied by season or weather. A conversion factor of 3.5 (of passengers per car) is used when accurate figures are not available. Each refuge will develop a conversion factor for boats based on range of usage. Count a camper once for each 24-hour period or fraction thereof.

Item 1a: Acres - of refuge open for each type of hunting.

Managed hunts require check in and out of hunters, issuance of permits, or assignment of blinds.

Other - INCLUDE crow, fox, and similar hunting.

Lands adjacent to refuge. Normally considered within 1 mile or less of boundary, unless established sampling procedures cover a wider area. For big game hunting, the distance may be greater.

Item 1b: Acres of streams open to fishing, if practical; otherwise just miles open. Information on "shores" is primarily for coastal fishing.

Item 1c: Recreation. INCLUDE photography, observing wildlife, picnicking, swimming, boating, camping, visitor center use, tours, etc. TOTAL Recreation, Official, and Economic Use visits under Item 1.

Industrial. INCLUDE persons engaged in industry, i.e., oil industry or factories. EXCLUDE these from Item 1.

Item 2: INCLUDE the "On Refuge" groups in Items 1c and 1. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items 1c and 1.

Item 3: Exhibits - INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.

3-1757

Form NR-7

(April 1946)

PLANTINGS
(Marsh - Aquatic - Upland)

Refuge NecedahYear 1956

Species	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount & Nature of Propagules	Date of Planting	Survival	Cause of Loss	Remarks
Softstem bulrush (<u>Scirpus validus</u>)	Goose Pool margins	15 - 20 Stems per clump every 5'	200'	50 clumps	July	Fair		Planted to prevent dike erosion
Japanese Millet	Rynearson No. 2 Pool	25 lb/A	43 Acres	1,025 lbs	June 12	Poor		Waterfowl food
Japanese Millet	Goose Pool	"	10 Acres	300 lbs	June 15	Good		"
Buckwheat	Rynearson No. 2 Pool	25 lb/A	15 Acres	400 lbs	June 19	Poor		"

TOTAL ACREAGE PLANTED:

Marsh and aquatic 68 acres
Hedgerows, cover patches 200' shoreline
Food strips, food patches
Forest plantings

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Necedah County Juneau State Wisconsin

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Buckwheat					120.2	600+ bu	120.2	Clover & Timothy	38.0
Corn					20.6	100+ bu	20.6	Rye	42.5
Rye (New Planting)					186.5	Browse	186.5		
Rye (Old Plantings)			20.0		43.0	Browse	63.0		
*Crops damaged by frost on 8/13/64									
								Fallow Ag. Land	45.0

No. of Permittees: Agricultural Operations 0 Haying Operations 1 Grazing Operations 1

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
Alsike-Timothy	25	30	\$12.50	1. Cattle	17	85.79	12.39	180
				2. Other Bee Apiary	20 hives	2.104 ea	2.00	
				1. Total Refuge Acreage Under Cultivation				472.8
Hay - Wild				2. Acreage Cultivated as Service Operation				472.8

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

REFUGE GRAIN REPORT

Refuge NecedahMonths of January 1 through December 31, 1956

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Proso Millet	52	0	52	-	-	7	7	45	40	5	0
DeKalb Seed Corn	0	3	3	-	3	-	3	0			
Rye	0	205	205	0	185	0	185	20	20	-	-
Buckwheat	600	0	600	0	200	0	200	400	400	-	0
Corn (ear)	115	245	360	0	0	145	145	215	-	215	0
Corn (shelled)	40	130	170	0	0	85	85	85	-	85	0
Japanese Millet	0	30	30	0	30	-	30	0			
Alsike Clover	0	8	8	0	0	0	0	8	8	0	0
Timothy	0	2	2	0	0	0	0	2	2	0	0
Ladino Clover	0	1	1	0	0	0	0	1	1	0	0

(8) Indicate shipping or collection points Necedah, Wis.(9) Grain is stored at Granaries at primary and secondary refuge headquarters

(10) Remarks

*See instructions on back.

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

Description, (1)	On hand beginning of period (2)	Received during period (3)	Total (4)	Grain disposed of				Balance on hand on close of period (8)	Grain transferred or shipped in		
				Transferred (5)	Shipped (6)	Lost (7)	Other (9)		Source (10)	Destination (11)	Condition (12)

REFUGE GRAIN REPORT

COLLECTIONS AND RECEIPTS OF PLANT STOCK
(Seeds, rootstocks, trees, shrubs)

Necodah

Year 193 04

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period of Collection	Method	Unit Cost	Amount	Source		
None to Report								

Interior Duplicating Section,
Washington 25, D.C. 84267

Interior Duplicating Section,
Washington 25, D.C. 84267

TIMBER REMOVAL

Refuge.....Necedah..... Year 195-64

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
<u>PERMITS ISSUED PRIOR TO 1964; COMPLETED IN 1964</u>				<u>CORDS</u>				
John Becker	35155	Sec 1 & 12 T 20N R2E	84	596.15 Aspen 20.69	2.00 5.00	1,192.30 103.45	Merchantable trees** "	Aspen Jack Pine
Oscar Baumgart	64-4	Sec 24 T 19N R2E	67	177.03	8.50	1,504.76	"	Jack Pine
John Becker	64-8	Sec 9 & 16 T 19N R3E	119	415.91	7.00	2,911.37	"	Jack Pine
John Becker	64-12	Sec 12 T 20N R2E	173	579.47	2.00	1,058.94	"	Aspen
Oscar Baumgart	64-14	Sec 35 T 20N R2E	56	366.26 50.29	2.00 6.00	732.52 301.74	"	Aspen Jack Pine
James Ayres	64-15	Refuge Firelanes	-	46.00	.50	13.00	-	Firewood
<u>PERMITS ISSUED IN 1964; COMPLETED IN 1964</u>								
Norman Parker	64-16	Refuge Firelanes	-	40.00	.50	20.00	-	Firewood
Norman Parker	64-17	Refuge Firelanes	-	35.39 19.54 Aspen	9.48 3.48	335.49 68.00	-	Jack pine cut by APW crews

*Down payment liquidated

Total acreage cut over.....

No. of units removed B. F.

Cords.....

Ties.....

(Continued)

Total income.....

Method of slash disposal.....

**Merchantable Tree - A tree containing at least one 100" stick of pulpwood 4" in diameter inside the bark on the small end.

TIMBER REMOVAL

Refuge.....Necedah..... Year 1956

Page 2

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
				<u>CORDS</u>				
Roy Cooper	64-18	Refuge Firelanes	-	10.00	.50	5.00	-	Firewood
John Becker	64-20	Sec. 1 T 20N R2E	10	37.24	2.00	74.48	Merchantable trees	Aspen
Alvin Williams	64-21	Refuge Firelanes	-	20.00	.50	10.00	-	Firewood
Clarence Jaeger	64-23	"	-	10.00	.50	5.00	-	Firewood
Louis Nowicki	64-24	"	-	10.00	.50	5.00	-	Firewood
John Daniels	64-27	"	-	5.00	.50	2.50	-	Firewood
Oscar Baumgart	64-28	Sec 7 & 17 T 19N R3E	30	72.31	4.00	289.24	Merchantable trees (Wind-thrown)	Jack Pine
Norman Parker	64-30	Refuge Firelanes	-	30.63	9.48	290.37	-	Jack Pine cut by APW crews
Oscar Baumgart	65-1	Sec. 9 T 18N R3E	50	284.08	7.00	1,988.56	Merchantable trees (Wind-thrown)	Jack Pine
John Becker	65-4	Sec. 4 & 9 T 18N R3E	15	76.01	7.00	532.07	" (Wind-thrown)	Jack Pine

(Continued)

Total acreage cut over.....

Total income.....

No. of units removed B. F.

Method of slash disposal.....

Cords.....

Ties.....

TIMBER REMOVAL

Refuge.....Necedah..... Year 195-64

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
Oscar Baumgart	65-5	Sec 7 T 19N R3E	25	<u>CORDS</u> 150.40	4.00	601.60	Merchantable trees (Wind-thrown)	Jack Pine
Rex Burns	65-6	Refuge Firelanes	-	10.00	.50	5.00	-	Firewood
Oscar Baumgart	65-7	Sec. 29 T 19N R3E	18	64.00 42.46	1.50 5.00	96.00 212.30	Merchantable trees "	Oak Jack Pine
Oscar Baumgart	65-9	Sec. 31 T 19N R3E	10	54.40	5.00	272.00	Merchantable trees (Wind-thrown)	Jack Pine
PERMITS INCOMPLETE AS OF JANUARY 1, 1965								
John Becker	64-19	Sec. 1 & 6 T 20N R3E	100	246.08	2.00	492.16 150.00	Merchantable trees Down Payment	Aspen
Oscar Baumgart	64-22	Sec 12 T 19N R2E	50	156.80	1.50	235.20	"	Aspen
Oscar Baumgart	64-25	Sec 16 & 17 T 19N R3E	20	214.14	8.00	1,913.12**	"	Jack Pine
John Becker	64-26	Sec 17 & 20 T 19N R3E	250	1,500.95	7.25	10,881.88	"	Jack Pine
Leslie Nowicki	65-8	Sec. 29 & 30 T 19N R 3E	6	-	5.00	25.00*	" (Wind-thrown)	Jack Pine

** Includes \$200.00 down payment: *Down Payment

Total acreage cut over 1,083.....

Total income \$26,328.05.....

Cords:

No. of units removed B. F.

Method of slash disposal Lop and Scatter.....

Cords 5,341.23.....

Ties.....

Average sale price for standing jack pine \$7.32 per cord
Average sale price for wind-thrown jack pine 5.78 "
Average sale price for aspen 1.93 "

ANNUAL REPORT OF PESTICIDE APPLICATION

NECEDAH

Proposal Number

Reporting Year

1-64

1964

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6/25/64 thru 7/17/64	Northern Pin Oak (<u>Quercus ellipsoidalis</u>) and Aspen (<u>Populus Grandidentata</u>) (<u>Populus tremuloides</u>)	Fire lanes and roads brushed out by APW crew winter of 1963-64	91.0	2-4-5-T 6 lbs/gal.	23.2 gal.	1.5 lbs. acid equivalent/A	Water 1:240	Panama Pump mounted in pick- up truck w/Hanson pistol grip nozzle

10. Summary of results (continue on reverse side, if necessary)

First heavy rainfall of .77 occurred on July 29th. First observation was made on July 2 on spraying done On June 25 and 26th. First effects noted on 7/2/64. Leaves began to curl at edges. Spraying began again on July 8, 9, 10, 13, 14, 15 and 16th. Observations were made daily on this spraying. On August 20th examination showed that from 25% to 60% apparent kill with an average kill of 30%. Temperatures ranged from 70 to 95, wind from SW from 0 to 15 MPH. Low humidity and high temperatures caused herbicide to evaporate before being absorbed by leaves. 15 miles of roadsides and fire lanes were sprayed amounting to 91 acres, herbicide cost \$166.18, equipment cost \$38.00, labor cost \$306.02 TOTAL COST: \$510.20 Cost per acre \$5.61, cost per mile \$34.01; cost per acre ranged from \$8.32 to \$4.73.

ANNUAL REPORT OF PESTICIDE APPLICATION

NECEDAH

Proposal Number

Reporting Year

3-64

1964

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
June 16, 18 19, 23, 25, 29, July (7 & 9)	Northern pin Oak and Willow (<i>Quercus ellipsoidalis</i>) and (<i>Salix</i> sp.)	SE corner of Rynearson No. 2 Pool; west of Williams dike on north end of Rynearson No. 2 Pool and along Williams dike east at top end of Rynearson No. 1 Pool.	20	2-4-5-T	2.9 gal.	.87 lbs acid equivalent/A	Water 1:40	Hand Sprayer

10. Summary of results (continue on reverse side, if necessary)

First heavy rainfall occurred on July 29th amounting to .77". First observation made on July 7th, another observation was made on July 22nd. The first observation showed some leaves beginning to curl at the edges. On July 22, some dead leaves were noted. A follow-up observation made on August 20th showed an apparent kill of not more than 25%. It appears that the upper-most part of the willow clumps were not covered by spray as they remained green. Temperatures ranged from 70 to 95° with low humidity. Herbicide cost \$21.43, Labor cost \$232.96, no equipment cost, TOTAL COST: \$254.39; cost per acre \$12.72.



N-1 Damage from April windstorm in 27 year old jack pine plantation located on the Speedway road.



N-2 Damage from May windstorm north of Grand Dike road.



• JAN • 65

R4 Exp. 14 Dragline in place to start excavation for basement on 14 x 26 foot office addition. 1960.



• JAN • 65

R4 Exp. 18 Pouring footings for new office addition. Arrowsmith and Carter.

99 • NVP •



R3 Exp. 15 Necedah Bow Shoot, September 12-13, 1964



• JAN • 65

R3 Exp. 14 Necedah Bow Shoot, September 12-13, 1964. 5,000 people in attendance.



63-29 Late bow season - Williams gate parking area.



• JAN • 65

R5 Exp. 6 Late bow season - Williams gate parking area.



• JAN • 65

R5 Exp. 9 Happy bow hunters during late bow season.



JAN • 65

R3 Exp. 4 Successful hunter during early bow season.



S&M-1 D-7 tractor enlarging the Becker-Parham unit in the southeast portion of the refuge.



S&M-4 Looking south on the Becker-Parham unit showing one-way plow preparing seed bed.



S&M-5 Becker-Parham unit ready for seeding.
This unit was enlarged from 37 acres to 85
acres with the use of Soil and Moisture funds.



S&M-9 Looking south on the newly cleared Little-
Yellow Hanson unit showing new refuge rotavator
preparing seed bed.



JAN • 65

R1 Exp. 0 Liming Upper Canfield Unit. Application of 12 ton per acre.



JAN • 65

R1 Exp. 13 Good results obtained by seeding portion of Goose pool to Japanese millet.



APW-1 Sign located intersection of Sprague-Mather road and Speedway road.



APW-11 A.P.W. crew clearing fire lane.



APW-25 1½ yd. dragline at West Branch Little Yellow Ditch prior to construction.



APW-28 Same as above after work has commenced. Being inspected by engineers Wright and Wahlin from the regional office.



JAN • 65

APW-50 View through riser looking upstream
on West Branch Little Yellow Ditch. Engineer
Johnston of regional office inspecting.



• JAN • 65

R5 Exp. 21 Rocking emergency spillway West of
West Branch Little Yellow Ditch.



APW-34 Operator Roosevelt Jensen beginning fill on Bewick Trail at junction of Bewick Trail and closed area line looking north. This work was contracted for \$16,236.24.



APW-35 New road lift looking north on Bewick Trail from junction of closed area line prior to dressing top and slopes.



• JAN • 65

R6 Exp. 6 Spreading gravel after freeze-up on Bewick Trail.



JAN • 65

R5 Exp. 18 Carter smoothing gravel on closed area line new road. Gravel is 6 inches deep and 12 feet wide.

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Part 4

5,000 Archers Jam Necedah

By TOM GUYANT
Of The Journal Staff

Necedah, Wis. — Archers killed more than 300 deer here Saturday as Wisconsin's state-wide bow-and arrow season began. Wardens estimated that nearly 5,000 hunters congregated in the Necedah wildlife refuge, the perennial hub of state bow hunting. It was one of the largest turnouts of hunters ever.

Dave Froggatt, flying conservation warden, reported that

there were 1,400 cars in and around the refuge.

It was cold and, as has been the custom here, most archers were out of the woods and in their cars by noon.

The biggest crowd of hunters was in the southern section of the refuge, an area which had not been open to deer hunting earlier.

Ditches were frozen and hunters had an easy time hiking the back country. There was a small covering of snow, about an inch of fresh stuff—but bowmen did

not need the tracking snow, particularly when there were so many hunters which made the deer move.

Two Necedah boys were the first to register deer. Jake Jasinski, 13, and his brother, Jack, 16, were in with their deer shortly after 8 a.m.

Despite the large turnout, there were no accidents. Wardens made only 12 arrests.

The state-wide late bow season will continue through Dec. 31 and archers may shoot one deer of either sex.



Bow Hunt

Wisconsin's late bow and arrow hunting season for deer, which opened Saturday, traditionally attracts large numbers of archers to the sprawling federal wildlife refuge at Necedah.

Cars clog the little parking areas (top photo) and line the roads which slice through the refuge.

Some hunters, like Mr. and Mrs. Herbert Toetz, 10001 S. 60th st., Franklin, right, bring folding chairs to make the long wait along trails more comfortable.

The late archery season will continue, state-wide, through Dec. 31. The bag limit is one deer of either sex.

—Journal Photos



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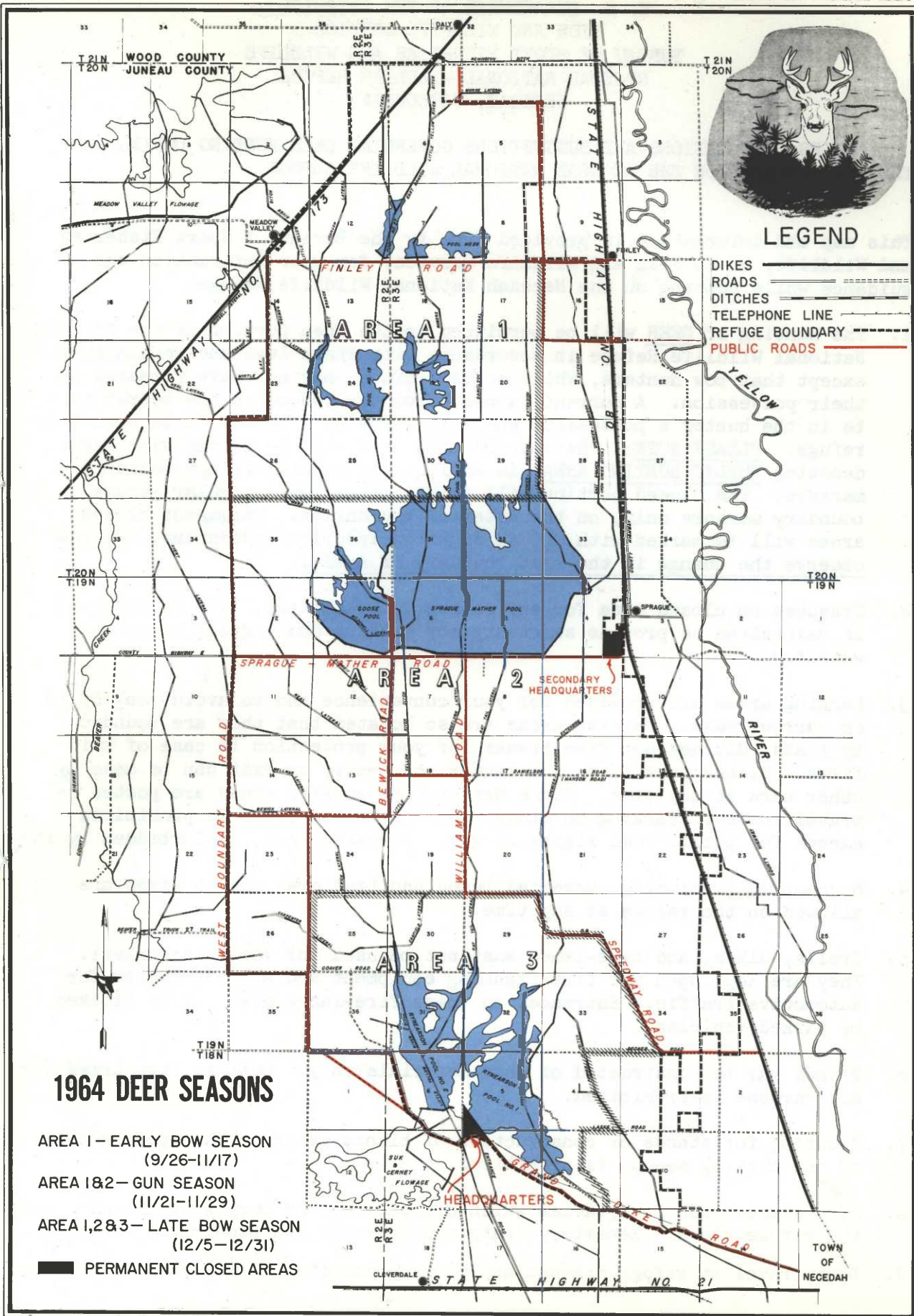
Part 4

NECEDAH NATIONAL WILDLIFE REFUGE

JUNEAU COUNTY, WISCONSIN

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF ENGINEERING

MINNEAPOLIS, MINNESOTA

JANUARY, 1960

FOURTH PRINCIPAL MERIDIAN

Scale 0 10 20 30 40 50 60 70 80 90 100 CHAINS

TOWNSHIP
DIAGRAM

MEAN
DECLINATION
1960

3R WIS. 274 409

U. S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
NECEDAH NATIONAL WILDLIFE REFUGE
NECEDAH, WISCONSIN

RULES, REGULATIONS AND SUGGESTIONS GOVERNING DEER HUNTING DURING
THE 1964 SEASONS ON THE NECEDAH NATIONAL WILDLIFE REFUGE.

This map and information is provided free by the Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service, for your information and guidance while hunting on the Necedah National Wildlife Refuge.

1. The hunting of DEER will be permitted on the open portion of the Necedah National Wildlife Refuge in accordance with State laws and regulations, except that bow hunters, while on the refuge, may not have firearms in their possession. A current, unused deer tag issued to the bearer must be in the hunter's possession and will serve as a permit to be upon the refuge. PLEASE NOTE: The open hunting area will be posted with signs denoting PUBLIC HUNTING AREA in addition to regular refuge boundary markers. The closed portion will remain posted with regular refuge boundary markers only, on the exterior boundaries. Permanent closed areas will be marked with CLOSED signs on interior boundaries. Please observe the change in the east boundary of Area 1.
2. Trespass on closed area for any reason is prohibited. The closed area is maintained to provide sanctuary for feeding and resting migratory waterfowl.
3. Parking areas are provided for your convenience and to avoid congestion on narrow roads. Parking areas are so located that they are bounded by roads, ditches and fire-breaks for your protection in case of wild fires. Please park in such a manner that entry or exit can be made by other cars at any time. Signs designating parking areas are posted on travel routes. Parking on other than designated areas is prohibited except for public road rights-of-way. Blocking roads is forbidden by law.
4. No camping (including converted buses and trailers) and no fires are allowed on the refuge at any time.
5. Trails, dikes, and fire-lanes must not be used for vehicular travel. They are kept open for fire-fighting equipment and are not suited for automotive traffic. Entrances to these fire-lanes must not be blocked by parked vehicles.
6. Blinds may be constructed of dead materials only. Cutting live trees for any purpose is prohibited.
7. Scouting for stands or construction of blinds prior to the opening date of the hunting season is prohibited.
8. Please use trash receptacles which are provided or bury your litter. Keep the refuge clean. Remember, State and Federal laws prohibit littering.
9. Boat travel on refuge ditches and pools prohibited during hunting seasons.

BE ★ GOOD SPORTSMAN ★ RESPECT THE RIGHTS OF OTHERS ★ PRACTICE SAFETY